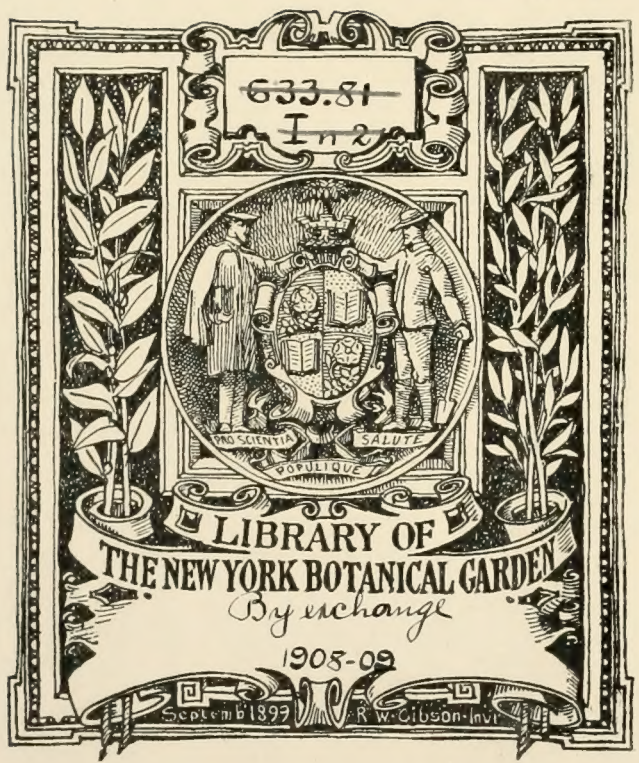


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1889 WORLD 1908

WORLD'S TRADE NUMBER

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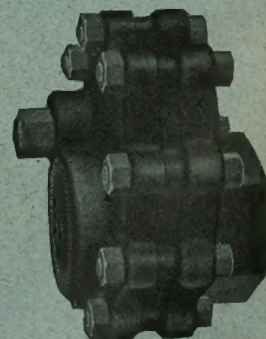
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A STORY OF GROWTH.

AT the beginning of a new year in the life of THE INDIA RUBBER WORLD it always has seemed to us appropriate to engage somewhat in retrospect. The recounting of accomplished progress in any industry is of interest not only in itself, but as indicating lines of possible future development. The nineteen years which have elapsed since the initial issue of this journal have been fruitful in invention and progress in many ways, and in no other industry, perhaps, more than in rubber and the allied interests. We feel certain that the last word has not been said in the development of rubber interests, and look forward to chronicling every year much more news of importance in this trade.

To eliminate from the rubber trade to-day all that has been developed in it within the past nineteen years would leave some very wide gaps—nearly everything in the way of vehicle tires, the greater part of the insulated wire manufacture, air-brake hose, hose for pneumatic tool work, the rubber-cored golf ball, and an immense number and variety of minor articles of rubber, together with the new processes and apparatus which have been perfected for their production.

The rubber world, so to speak, has been greatly broadened in those nineteen years. The opening up of forest rubber areas in Africa and in the upper Amazon regions

has alone proved of vast importance to the industry, while the introduction of rubber culture has still further increased the world's supply of raw material. Scarcely less important has been the great improvement in reclaiming rubber and the increase in the volume of this product. The growth in the extent of the output of the rubber factory has involved not only a large increase in consumption at home, but the sale of important quantities in countries not consumers of rubber before.

We cannot better sum up the situation, perhaps, than by referring to the International Rubber and Allied Trades Exhibition, just closed in London, as an epitome of progress in rubber; to have omitted from its catalogue all that represented development during the past two decades would have left little more than a skeleton. We regard this exhibition as epoch-making, and by comparing future rubber exhibitions with it will best be measured the growth of the trade.

It is of interest to note that seldom has rubber been utilized to an important extent for any purpose without continuing to be so utilized. Hence every new application means a permanent addition to the catalogue of the uses of rubber. To-day the possibility appears to exist of a great coming demand for rubber in aerial navigation—a demand which within the coming nineteen years may prove as important as the present demand for rubber in the tire trade.

We do not doubt that the most important development in the next decade will relate to the production of crude rubber—in new fields and from new plants, as well as in the improved preparation of rubber in the fields now exploited. It is not unlikely that within this period the culture of what now are regarded as minor rubber plants will become extensive in the temperate zones.

The work of chronicling the progress of the rubber trade has been a constant source of interest and pleasure to the Editor, involving as it has the collaboration of so many leaders in this progress, and he can have no higher wish than for a long continuance of this desirable relation.

THE POPULAR NEW VEHICLE.

FROM the inception of the automobile THE INDIA RUBBER WORLD has dealt with the development of the new class of vehicles as affording perhaps the most important single outlet for the products of the rubber manufacture. To-day it may be asserted that the demand for rubber for tires exceeds the most enthusiastic predictions of ten—or even five—years ago, and it seems likely to become much larger before showing any decline. As we have so often pointed out, the commercial use of self-propelling vehicles has become no less important, from the standpoint of the rubber man, than the use of the machines more popularly called "automobiles." The latter, being used largely for pleasure or recreation, in addition to being costly, must necessarily be

confined to a limited share of the population; in times of business depression the possibility exists that the demand for them will decline; and those persons who have taken up automobiling as a "fad" may lose interest in it in time. It may be said, however, that during the first business depression America has known within the history of automobiling, the makers of these machines appeared to be less affected than any other class of manufacturers.

The next important development in the field of self-propelling vehicles requiring rubber tires evidently will be in the widespread use of the small passenger cars introduced for hire, which, as now appears, will become known generally as "taxicabs." The failure of the "motor 'buses," hailed with so much enthusiasm in Europe two or three years ago, to realize all the expectations entertained regarding them need not be quoted to the prejudice of the smaller and more efficient taxicab. The motor 'bus was designed to follow fixed routes; it had to carry a dozen or twenty passengers on every run in order to earn dividends; it was heavy and unwieldy, inconvenienced other forms of traffic and "ate up" tires at a costly rate. The taxicab, on the contrary, can be utilized by a single passenger, or a small party; it will go wherever its fares wish, in or out of the city, without necessarily making schedule time, and it has many other advantages, not the least of which is the applicability to it of pneumatic tires.

The taxicab has all the desirable features of the horse drawn cab, with much greater speed; its use encumbers the streets less and renders the streets cleaner, and when the new vehicles come into wider use they doubtless will afford cheaper transportation than any one ever dreamed of while horses were the sole dependence aside from tram cars. Practically equal to the automobile for many purposes, available, temporarily at least, for every man with a shilling in his pocket, the taxicab promises to become the most popular passenger vehicle ever yet produced, and one that will give a new impetus to the rubber tire industry.

TRYING TO DRIVE OUT AIR.

THE impression evidently prevails in many quarters that an exhaustion of the supply of atmospheric air is imminent. We all remember the scare over the threatened rubber famine. No sooner had the researches of Goodyear and Hancock demonstrated the great number of uses to which the hitherto useless india-rubber could be applied with success, than people began to fear that there would not be enough of the elastic stuff to go around. After a half century, however, and now that planters are getting out rubber more cheaply than it can be gathered in the forests, the old-time scare seems to have dropped out of the stock list of topics in the newspaper offices about which a column could always be written when the presiding genius was in doubt about what to use to fill his space. It is easier in these days for the

hack writers to make their readers' flesh creep for fear that rubber may become too plentiful for everybody now producing it to find a market.

After resilient tires came in vogue and rubber prices for awhile soared to such an unprecedented height, inventors busied themselves for awhile in trying to develop tires which should require little or no rubber. That seemed reasonable enough, but motorists still appear to demand rubber of some sort for their tires—and rubber doesn't cost quite so much as at one time. But the inventors must be busy, and they are progressive, trying always to keep ahead of the game, which is commendable whether they succeed in setting the world on fire or not. Automobiling having such a hold upon public interest to-day, the old-time inventors of plows and churns and moth-proof beehives have been supplanted by a class dealing with automobiles and motor accessories, until the patent offices are overflowing with surplus funds from fees. And now the tire class is intent, not so much upon anything relating to rubber as on rendering unnecessary the use of air in "pneumatics!"

The inventor does not always venture into deep water. The type of tire which consists of an air tube with an envelope having become standard, most of our friends to-day who are trying to find substitutes for air stick to this form, though it would seem that they would simplify matters by filling "hose pipe" or cushion tires with their compositions. We could present a list a mile long of patents covering the use of innumerable materials which have been suggested as substitutes for air, and which at least are not so heavy as scrap iron, and not much more expensive, though we doubt whether all of them are more resilient. How to get the various tire fillers in place is a problem with some of the inventors. In one case, we notice, the patentee has been original enough to discard the inner tube, and stuff his composition by hand into an ordinary envelope, after which it is held in place by cementing a strip of canvas over the base of the envelope.

Far be it from us busy journalists to invade the field of invention, but when we read a patent specification like this we are tempted to make remarks: "The composition is introduced into the interior of the air tube, where it forms a lining covering the inner surface." We at least should have more respect for the originality of an inventor who devised a lining for the *outside* surface of an air tube, or any other manufactured product. And this leads up to the thought that perhaps the whole school of investigators we are considering are on the wrong path. Instead of getting their compositions inside a tube, why not *line the outside* with layer upon layer, wrapping one about the other, until the desired volume is attained, after which they might put on an outer cover or an inner cover or no cover at all. But most of all we should consider the air tube superfluous, since the main object is to dispense with the use of air.

But why fear an air famine? Why not learn to use

the same air, time and time again? If there isn't enough common garden air, however, why not import it from the sparsely peopled *pampas* of South America? Why not build windmills to make wind? Why not bottle up the exhaust from the countless political orators now busy in the American presidential campaign, spouting what the authorities in slang call "hot air"? Why not use dephlogisticated air? To close this serious discussion, however, we do not foresee that the effort to displace air in motor tires is liable to succeed to the extent that rubber will not still be required—and that is the main point in the trade which this journal represents.

TRAINING RUBBER ESTATE MANAGERS.

THE rubber planting interest is still too new to have developed very many experts in its various departments. The first essential, of course, after the trees were planted, was to get out rubber. The practicability of this having been established, the next question was how cheaply the rubber could be produced, because upon this depends the whole matter of profits. The successive annual reports of some of the older rubber plantations show a declining scale of costs, with indications that the bottom price has not yet been reached. As a result, during the lowest stage of the market last year, some plantations were realizing almost as much net cash per pound as during the preceding era of high prices.

Not all the plantations now producing, however, have been able to make an equally satisfactory showing to their shareholders. One reason, suggested by an Eastern rubber planter recently while visiting THE INDIA RUBBER WORLD offices, is that the number of expert plantation managers developed thus far is not sufficient to supply the demand. Many managers are yet obliged to work in an experimental way. Their first problem is to produce rubber, at whatever cost, after which they can address themselves to lowering the cost, through improvement of their methods and the further training of their employés.

At one time it was thought that one who had qualified as an expert in rubber plantation management, through his success on one estate, might be relied upon to obtain similar results on any number of estates, by acting in an advisory capacity for them all. This, however, has not always proved true in practice. The trouble is that in the case of one man's energies being spread out over so many plantations, much has to be left to the local working staffs, and unless these have had some training the best laid plans may fail to be carried out intelligently. This is particularly apt to be true if dependence is placed upon native employés. However faithful they may be, and however intelligent they may seem while actually working under directions, failure too often results when they are left to exercise their own judgment.

But all of this furnishes no argument against rubber culture. The men who have won success in their field

have done so merely because they happened to be on the ground when rubber culture was introduced into their region, and they addressed themselves successfully to its problems. There must be other men equally fitted by nature for such work, and the incentives to study rubber planting questions are greater than when the pioneers first took up the work. The first lesson having been learned, that special training is necessary for managing a rubber plantation well, as is true in every other business, there need be no fear of an ultimate lack of good managers.

This subject was referred to at the summer meeting of the Rubber Planters' Association of Mexico, by Dr. Pehr Olsson-Seffer, who suggested that rubber planting is not so simple a matter as some people might think, and that a plantation involving an expenditure of, say, a million dollars, calls for managerial ability of a high order. The difficulties to be met are magnified if the management of a tropical enterprise is undertaken by one not before familiar with tropical conditions. In Mexico, the speaker said, there had been a weeding out of managers, and the outlook to-day is good with regard to the character and capacity of the men in charge of the rubber plantations there.

A NEW REGIME IN THE CONGO.

THE Congo Free State has become a colony of Belgium, as Lagos is of England, Kamerun of Germany, Algeria of France, and Angola of Portugal. Henceforth not Leopold but the Belgian parliament is entitled to praise or must bear the blame for whatever of good or ill develops in the administration and condition of the Congo. Now that the status of that region is on the same plane as that of other African regions under European control, the Powers which have criticized the management of the Free State are under challenge to show whether or not they are doing better with their colonial administration under like conditions. Those who have been pleased to attack Leopold, the individual, as an administrator, no longer have an excuse to single out a single African dependency for their criticism, but must deal with colonial conditions in Africa as a whole; the European or American who deplores the fate of the African native under white man's rule must now take into account the condition of the native under the rule of any and all the Powers. On the whole, the new régime promises to lead to a clearer understanding of African affairs in general, through the removal of the condition, unusual in modern times, of one individual apparently with unlimited power over so great a country as the Congo Free State under the King of the Belgians.

THE INDIA RUBBER WORLD is no apologist for Leopold. With Congo politics, so to speak, it has had no concern; as to the motives of the critics of the

late sovereign of the Congo domain it has not even inquired into them. Our interest in the region began with the declaration of Stanley, then an American, after traversing the "Dark Continent," that it would become "the rubber reservoir of the universe." As a matter of trade news THE INDIA RUBBER WORLD (December 15, 1892—pages 63-65) printed a lengthy report, from a disinterested and authoritative source, on the rubber resources of the Congo, with an original map—the first generally circulated in America—giving the first official decree relating to rubber in that region. Since the date referred to we have attempted to keep the trade adequately informed in regard to Congo rubber conditions.

Now that the Congo State has been annexed to Belgium, in accordance with the frequently expressed ideas of Leopold II, we give space on another page to a statement written at our request of the meaning of the act, from an official source—from the pen of the representative of the Free State in America, a widely-known writer on legal and economic topics who has represented the United States at several international congresses. The views expressed therein may not meet with universal acceptance, but we cannot help that; it is not our statement. It concludes, however, for the present at least, our record of Congo politics.

The Congo rubber situation will continue to be of importance. It is interesting to be assured that the status of foreign *concessionaire* companies on the Congo—two large ones are American—are not to be disturbed. Whether the Congo rubber output will be maintained remains to be seen. Under ordinary circumstances we should expect the decline which has been in progress for some years to continue. If the change in régime should lessen the extent of enforced labor it will decline more rapidly. We have never felt the confidence in the outcome of rubber culture in the Congo as in planting in some other regions, though ultimately the result may justify all the hopes that have been entertained. As to planted rubber, however, there is nothing to do just now but wait; as for the much discussed "red rubber," will it continue to be produced under the rule of Belgium, as successor to the king-sovereign?

"PARÁ" OR "HEVEA"?

AS is natural where a new article of commerce is being introduced, the desirability is expressed in Ceylon of having a distinctive name for the plantation rubber produced there, instead of referring to it as "Pará" rubber. For many years all Pará rubber came from a limited district in Brazil, taking its name from the port whence it was shipped. When rubber began to arrive from other countries—Central America, Assam, and so on—the geographical system of designation was natural and effective, since in each case it referred to a distinctive quality of material. Later other classes of rubber found their way down the Amazon, past the custom house at Pará, but the name "Pará" was reserved for the quality first derived from that port, and

other names—such as "caucho"—were given to the new rubbers. Now other South American countries have joined Brazil in supplying rubber of the original "Pará" type, giving rise to terms as "Bolivian Pará," while rubbers from Mollendo, on the Pacific, or from the Orinoco, in Venezuela, reach the manufacturer as "Pará." In other words, "Pará" has ceased to be a mere geographical designation, but indicates a certain general type of rubber, the product of the tree known to botanists as *Hevea*.

The introduction of this tree into the old world was followed by the description of its product there as "Pará" rubber, to distinguish it from the product of the many other species, wild and cultivated, with which it competed. Now has arisen some confusion owing to the fact that from the commercial and also from the industrial standpoint "Pará" rubber grown in Ceylon differs from the forest product so long known by that name, and great pains is necessary satisfactorily to describe the various lots. *The Times of Ceylon* invites the coöperation of THE INDIA RUBBER WORLD in seeking the adoption of the term "Hevea" for plantation rubber produced from the species which that name describes.

The objection might be urged, from the scientific standpoint—and all the rubber men seem in a fair way to become scientists—that "Hevea" is not sufficiently distinctive; for is not the forest rubber of a half-dozen countries equally the product of the *Hevea* species? It may seem inconvenient now to describe a certain rubber as "Ceylon Pará." Adopt the new suggestion, however, and in time we probably shall be getting "Hevea" rubber from the Amazon, when it would be necessary to write "Ceylon Hevea" to let buyers know that it was not "Pará Hevea," or "Bolivian Hevea"—i. e., cultivated *Hevea* rubber from South America. Where does the simplicity come in?

Account must be taken of the inertia to be overcome in introducing changes in trade nomenclature. For a long time to come the name "Pará" is likely to persist in use in describing the rubber which now holds first rank in the trade, and offerers of rubber having any sort of relation to that type doubtless will find it more convenient to add the term "Pará" to their descriptions than to attempt to introduce new names the pertinence of which is not so clear to render them at once popular.

We should be delighted and proud to assist in the laudable work of reducing to a better system the classification and naming of rubber grades, but to get down to a single word the description of a particular lot of rubber is, at present at least, impossible. A single shipment of "fine Pará" rubber from the Amazon to-day must be described, for the purposes of seller and buyer, sometimes under a score to a hundred headings. The time is not yet ripe for one word—"Hevea," for example—to designate the produce of planted *Hevea Brasiliensis*. And if it were, how about the produce of *H. lutea*, *H. discolor*, *H. Guayanensis*, and twenty other species of *Hevea*?

The commercial success of rubber culture in the Far East thus far has been greatly enhanced, we take it, by the bringing together under the control of a few highly systematized large companies, well managed on a solid financial basis, of very many small plantations. How does *The Times of Ceylon* know that, within a comparatively few years, the whole rubber plantation interest in Ceylon, for example, may not be brought under some such central management as shall control the production of rubber goods on a more scientific basis, so that the natural designation need not be "Pará," or "Hevea," or "Ceylon," but two or three trademark names which indicate to every intelligent manufacturer in the world just what quality of rubber is covered by each? This would not involve necessarily the merger of all the present companies into one, but a convenient "community of interest," on a basis capable of application likewise to Malaya, South India and the Dutch East Indies.

IT SEEMS IN ORDER AGAIN to refer to the expansion of the submarine cable interests of Germany, especially on account of

the German policy of fostering the domestic cable industry instead of depending upon foreigners to build the cables wanted, as is the case with the United States. Having successfully established a cable service to New York, the Germans have now planned another transatlantic route, this time to Brazil, in connection with which a branch will extend to German West Africa. In view of all the talk for nearly a century about forming closer relations among the American republics it might have been expected that the United States would precede Germany in the matter of running a cable to Brazil.

THE EARLIER ATTEMPTS AT COTTON GROWING in many parts of the world where competition with the United States was attempted happened before the commercial utilization of cotton seed was known. To-day British and French and Belgian and Portuguese and German colonies in Africa—not to mention other regions—are producing not only cotton fiber of good quality, but considerable quantities of cotton seed, which also can be exported to advantage. It is true that the seed is now utilized to great advantage in the United States, instead of being regarded as a nuisance, as formerly. None the less, the fact that the African cotton planter now has two commercial products from the same planting instead of one is not to be overlooked in prospecting the world's cotton production of five to ten years hence.

THE NEW YORK STATE FORESTRY DEPARTMENT is planting millions of timber trees on waste lands, with the idea that some of them will stand for sixty years or more before being cut down to yield a commercial product. By comparison, waiting ten years or less for rubber trees to become productive seems almost like getting immediate results.

BRITISH RUBBER SUBSTITUTES.

MERRILY the inventors of rubber substitutes and the like still go around, until the patent office inventors must be dazed with the problem of determining how any of the substitutes brought to them to-day differ from those patented in former years. The few references on this page are not a record of a year, but of announcements made within three weeks, in a single country. From the use suggested for several of the inventions—for tire fillers—it would be appropriate to term the substances "air substitutes" rather than rubber substitutes.

Lugo (British patent No. 10,008—1907) forms a rubber substitute by heating a mixture of oxidized oil and rubber to a temperature at which the rubber dissolves. Potassium permanganate is added, and the whole heated to 360-400° F. Finely divided waste rubber is added, the mass being stirred and the temperature maintained. To obtain a harder product sulphur may be added.

S. de Pont (British patent No. 9,379—1907) produces a non-inflammable electric insulating composition, suitable also for buttons, bottle stoppers and piano keys, from asbestos or vegetable fiber 30 parts, plaster of Paris 5, clay 8, copal 15, cowrie or lac 5, bitumen or the like 15, aniline 2, lampblack 15, mica 4, and wax 3 parts. The ingredients, partly dried, are mixed and dried under pressure between steam-heated rollers.

Inrig (British patent No. 9,094—1907) prepares a rubber substitute from the gelable portions of animals. Fifty parts of such material are treated with 50 parts of water and from 20 to 60 parts of oil at a temperature of 200° F. Subsequently sodium stannate and potassium bichromate are added. On heating to 212° F. a mass is obtained which may be set in a mold and used for filling motor tires. To obtain a harder mass less oil is used, and the composition is mixed with 5 to 10 per cent. of sulphur and heated to 260° F. This latter form is designed for insulation purposes.

Frankenburg, of Salford (British patent No. 8,780—1907),

fills tires with a composition prepared by dissolving dead Borneo, potato, or other rubber, balata, or gutta-percha in heated or boiled oxidizable vegetable oil, with sulphur added for vulcanizing. The composition is pumped into the tire or inner tube.

Scott (British patent 9,727—1907) makes a composition for sealing tire punctures of milk 50 parts, isinglass 17, fish glue or gelatin 200, carnauba 10, formaldehyde 3, and gum ammoniacum 1 part. Introduced within the air tube it forms a lining for the inner surface.

Fagioli (British patent No. 10,017—1907) produces a tire, the cover of which, instead of containing an inflated tube is filled with a composition consisting preferably of these proportions: 1 pint giant cement, 1½ pints of rubber solution, and 2½ gallons granulated cork. When the tire has been filled a canvass strip may be cemented over the base, and the tire mounted on a two-part rim with a detachable flange.

A CAMPAIGN OF EDUCATION.

NOT so long ago rubber was simply rubber. Even after importers and manufacturers had begun to recognize hundreds of different grades of the raw material, it was presumed that all rubber looked alike to the man in the street. But now the public is expected to be more discriminating as to rubber, and the public intelligence is appealed to in up-to-date advertising, in respect of rubber as well as of most other commodities. Take for example the statement featured prominently in newspaper advertisements of a certain fountain pen, that the manufacturers use "Beni Bolivian Pará Rubber" from the Madeira river, "the toughest, most elastic, and costliest rubber gathered," and to render the advertisement more informing pictures are given of rubber gathering as well as of working rubber in the factory. The idea is that this fountain pen is not the same as others in the market, and that the difference begins with the quality of rubber used.

A department store advertising in the same newspaper devotes some space to clothes wringers, incidentally mentioning the use of "Pará rubber" in the rollers and referring to the "vulcanization," which would indicate that such terms are now passing into general speech.

All the above relates to America, the home of the vulcanized rubber industry, but all the world is becoming Americanized nowadays, and newspaper readers elsewhere are becoming more familiar with rubber and its uses. Even China is coming to have newspapers in the sense in which newspapers are known in the Western world, and it occurs to a writer in the *London Daily Mail*, in a résumé of Chinese journalism, to mention "rubber waterproofs" as occupying a good deal of space in their advertising columns. No doubt native newspaper readers in China soon will be confronted, in the advertisements spread before them, with the claims of rival tradesmen—each to employ better rubber than the others, with arguments to support their claims. Everywhere the campaign of education in rubber is progressing, and at a rate that ought to be encouraging to all who produce rubber or help in any way to render it commercially valuable.

At a special meeting of the De Mello Brazilian Rubber Co., Limited, in London, the directors were authorized to borrow £150,000 and to release Sebastiao Francisco de Mello from a claim which the company held against him. Within a year, certain debts of the company being pressing, the directors had become responsible for a large sum, secured by the issue to them of provisional scrip, and in order to protect holders of the scrip a receiver had been appointed. The company were then able to arrange for the shipment to Manaus of 160 tons of rubber but owing to the fall in prices the results were very disappointing. Large sums were due the company in the rubber districts, and it was believed that, with the issue of £150,000 in debentures the company would be able to finance their affairs successfully.

THE EDITOR'S BOOK TABLE.

ESTUDO SOBRE OS LATEX BORRACHIFEROS E OS METODOS de Fabrico da Borracha. (Seguido de uma noticia sobre uma nova especie borrachifera descoberta pelo auctor no sertão de Benguella). Por Carlos Eugenio de Mello Galdes. Lisbon: Lucas. 1906. [Paper. 8vo. Pp. 177.]

THE author has contributed through the pages of *Revista Agronomica* (Lisbon) and other journals some important additions to our knowledge of African rubber species, particularly in the district of Benguella, which already has furnished many thousands of tons of rubber to the world's markets. This brochure is a general résumé of the history of the use of rubber, with notes on the qualities of the leading commercial brands, but its notable feature is the first scientific reference to the plant in the Bihé district, in Angola (Portuguese Africa), known locally as "Ekanda." Unfortunately, Portuguese is not so widely read as some other languages in which progress in rubber is recorded. This publication, as its title shows, appeared in 1906. The *Kew Bulletin* two years later (No. 5—1908) says: "But it was only in the summer of the following year that the discovery became more generally known through a short abstract from Professor Galdes's paper published in THE INDIA RUBBER WORLD [July 1, 1907—page 200]." Following this latter notice the Ekanda tuber was studied at Kew, where it has been identified by Messrs. Brown and Stapf as *Raphionacme utilis*. The plant referred to has attracted the serious attention of the important Companhia de Moçambique, engaged to so large an extent in development in Portuguese East Africa, and who have recently secured the services of Mr. W. H. Johnson, lately director of agriculture for the Gold Coast Colony, in West Africa, and author of a work of considerable value entitled "Pará Rubber." While the Ekanda plant is a native of Angola, in West Africa, the Mozambique company are hopeful of acclimatizing it in their Beira territory. The 1907 report of the Mozambique company says: "It would appear that the 'Ekanda' propagates rapidly, and does not require special care; it is therefore probable that it will easily develop in our territory; we could therefore thus rely upon an important source of revenue, for the bulbs of Ekanda are undoubtedly rich in india-rubber, which is of excellent quality and the sacrifices [cost] which its cultivation demands are, so to speak, insignificant." It is interesting to note that Professor Galdes has in preparation a supplementary study: "Da exploração racional das principaes especies borrachiferas."

THE FUTURE OF CACAO PLANTING. A PAPER READ BEFORE the Royal Horticultural Society, London. By Harold Hamel Smith, Editor of *Tropical Life*. With an Introduction by Sir Daniel Morris, K. C. M. G. London: John Bale, Sons & Danielsson, Limited. 1908. [Paper. 12mo. Pp. xiii + 95. Price 1 shilling.]

It doubtless will become recognized in the near future that a community of interest must exist between the cultivators of india-rubber and other tropical products. Mr. Smith, rightly, we think, is an advocate for planting more than one crop at a time, in order to distribute the risks and minimize the effects of adverse markets. The commercial value of cacao (the chocolate tree), already great, is constantly increasing, and it happens to be adapted to the same natural conditions as *Hevea* and some other species of rubber. In fact, some of the more important Ceylon plantations of rubber had their origin as a side issue with planters of cacao. Later there was considerable interplanting of rubber and cacao, but this we understand Mr. Smith to discourage; his theory of mixed crops extends only to encouraging planters to devote attention to both crops, but not to the extent of interplanting, for reasons which he clearly sets forth. Our author is an authority on cacao, and his little work can be recommended to rubber planters as meriting their interest, whether or not they have been planters of this crop. The fact of Mr. Smith's activity in connection with the London Rubber Exhibition will give rubber planters an additional reason for giving his valuable little book a perusal.

IN CURRENT PERIODICALS.

THE Atlantic Cable of 1858. By William Mayer, Jr. *Electrical World*, New York. LII-8 (Aug. 22, '08). Pp. 385-387.

Veränderung des Kautschuks beim Lagern und Seine Konservierung. By W. Schellmann, PH.D. *Der Pflanze*, Amani. IV-1 (Jan. 4, '08). Pp. 1-8
Ekanda Rubber (*Raphionacme utilis*). By Otto Stapf. [The tuberous rubber producing plant described in THE INDIA RUBBER WORLD, July 1, 1907—page 300.] *Kew Bulletin*, London. No. 5 (1908). Pp. 209-215 with plate.

The Rubber Plant of Southern Europe. By Professor Mattei and Gustave Van den Kerckhove. [Report on *Atractylis gummifera* reprinted from THE INDIA RUBBER WORLD, March 1, 1908—page 177.] *The Indian Forester*, Allakabad XXIV-7. (July, '08). Pp. 386-392.

Rubbers from Trinidad. [Report on 23 specimens of plantation rubber, from several species.] *Bulletin of the Imperial Institute*, London. VI-2 (1908). Pp. 135-144.

Localizing High Resistance Breaks in Cables. By J. Rymer-Jones. *The Electrical Review*, London. LXIII-1600 (July 24, '08). Pp. 124-125.

ALSO RECEIVED.

Le Caoutchouc en Nouvelle-Calédonie. Par M. Etesse. Paris: Augustin Challamel. 1908. 24 pages.

Views in the Congo Free State. Development of Central Africa Under the Rule of King Leopold. [A series of pictures from photographs. Received from the consulate general of the Congo Free State at Baltimore.] 34 pages.

Rubber Cultivation in Ceylon. [The advantages of artificial manures for bearing rubber trees.] Freudenberg & Co., Colombo. 11 pages.

Methods of Analysis of Raw Rubber. By D. Spence, PH.D. 16 pages.
Distribution of the Protein in Pará Rubber. By D. Spence, PH.D., 15 pages.
Analysis of Latex from *Ficus Vogelii* and of "Memlaku" Rubber Therefrom. Note on the Karite Gutta. By D. Spence, PH.D. 15 pages. [Reprints from *The Quarterly Journal*, Institute of Commercial Research, Liverpool University. 6d. each.]

Plants a Caoutchouc. By Professor G. E. Mattei and Gustav van den Kerckhove. [On the possibility of the cultivation of rubber species outside the tropics.] 23 pages.

The Moçambique Company. Memorandum with respect to Rubber in the Territory of Manica and Sofala. Translated from the Portuguese. London: Whitehead, Morris & Co., Limited. [Paper. 4to. Pp. 72. Price 1 shilling.]



"THE INDIA RUBBER WORLD'S" EDITOR IN JAPAN.

[Advantage is taken by the staff, in the absence of Mr. Pearson, to give his friends in the trade a glance at an excellent photograph which comes from Japan, where evidently at one time he posed before a camera with Mr. Kenzo Okada, of an important rubber manufacturing company at Tokio.]

Aeronautics and the Rubber Industry.

THE past month has been prolific of news bearing upon aerial navigation—a subject which, now interests the general newspaper reader everywhere, as well as engineers, military authorities and other scientific classes. To the casual reader of the daily reports of the current exploits of Wright, Baldwin, Zeppelin, *et al.*, it may be surprising to be reminded that just 17 years ago Mr. Octave Chanute, then president of the American Society of Civil Engineers, and regarded as perhaps the best living authority on "Progress in Aerial Navigation," in which he admitted that the success attained had been small. He said:

Within the last decade a balloon has been driven against a moderate wind, and a man is said to have flown a hundred yards near Paris. So that it may be that, as Professor Langley (then secretary of the Smithsonian Institution) says, the problem of aerial navigation is about to pass into the hands of the engineers.

To sum up Mr. Chanute's paper, published so recently as 1891, he could record little more advance in aerial navigation than "a great change in the attitude of popular opinion toward the whole subject. It is no longer regarded as wholly impracticable and visionary." In other words, a man might at least talk about "flying" without being considered a "crank."

Mr. Chanute has lived to see dirigible balloons and various forms of aeroplanes apparently capable of practical use. Look back to Mr. Chanute's cautious statement—"a man is said to have flown a hundred miles near Paris"—and compare it with Count Zeppelin's flight of 300 miles within 20 hours, in a dirigible airship, 435 feet in length, with 220 H.P. motors. Not only is the development in aerial navigation of vast interest in military circles, and from other practical standpoints, but it is being taken up with enthusiasm as affording a new field in sports. It is understood that at the coming eleventh Exposition Internationale de l'Automobile, du Cycle, et des Sports, at the Grand Palais, Paris, an extensive section will be devoted to balloons and flying machines.

But the object of this article is not so much to record the details of the progress that has been made in aerial navigation, as to call attention to the great importance to the india-rubber trade of ultimate success in this field. As the automobile would be impracticable without rubber tires, neither the balloon nor the aeroplane is capable of the best development without rubber. Particularly is this true of the balloon.

It is true that the coating of rubber in balloon fabric can be replaced with a coating of varnish, and in France many sailing balloons are constructed of a varnished fabric, but the varnish is by no means as impermeable as rubber. Moreover, the varnished fabric has other disadvantages, in addition to its lack of capacity to retain gas. It is, for instance, a better conductor of heat, and for this reason the gas, in a varnished balloon, is heated more

quickly by the sun's rays and cools more rapidly in the shadow of a cloud, causing a greater loss of gas than occurs in the case of a balloon made of rubberized fabric. Heat also causes the varnish to become sticky, making packing more risky, and the balloon is likely to be damaged by sticking together when unpacked. A low temperature hardens the varnish and the fabric is brittle when folded, all of which factors make the varnished balloon less durable than one made of rubberized fabric, the latter being used for all the best and largest balloons.

For motor balloons, or dirigibles, owing to the much higher gas pressure required, it is next to impossible to use varnished fabric. The loss of gas within a prescribed period would be altogether too great. The high degree of perfection to which



INTERNATIONAL BALLOON RACE AT HURLINGHAM.

[From *The Automotor Journal*.]

the rubberized balloon fabric has been brought, in Germany, is proved by the fact that the manufacturers guarantee that it will not lose more than 10 quarts of hydrogen gas per square yard, in 24 hours, in spite of the pressure under which it stands being considerably higher than the surrounding atmosphere.

In the development of balloon fabric Germany has held the lead hitherto, as France has in the construction of automobiles. But as other countries are becoming independent of France in respect of automobile construction, so Germany must look for competition in the supplying of balloon fabric. The United States government has encouraged the production of balloon fabric by domestic manufacturers, and the gas bag used in the first American war



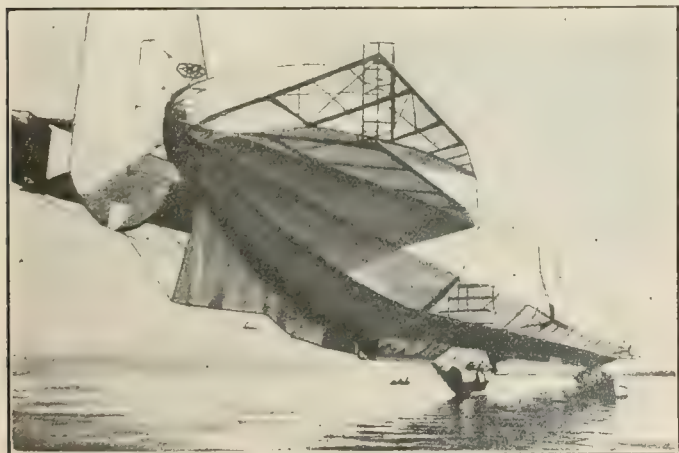
INTERNATIONAL BALLOON CONTEST AT THE AERO CLUB'S GROUNDS, HURLINGHAM, ENGLAND.

[Panoramic view of the balloon paddock, showing the whole of the 31 balloons in position, in process of inflation from a 14 inch gas nozzle. The large white "mat" to the right is the starting line.—From *The Automotor Journal*.]

balloon—the dirigible offered by Captain Thomas S. Baldwin, with a capacity of 18,000 cubic feet—was made by an important rubber concern in this country.

Balloon fabric has also been used of late in France for the construction of the planes of *aéroplanes*, whereas formerly varnished silk and even varnished or oiled paper was used for this purpose. These substances are likely to be entirely superseded in flying machine construction by balloon fabric, which is much more durable. For motor balloons, as well as for *aéroplanes*, thin sheet-metal has been tried for the envelope. In building the great motor balloon of Count Zeppelin, a great deal of aluminum was used, but the gas bag itself was of rubberized balloon fabric. Jatho, of Hanover, in his *aéroplane*, experimented with planes covered with thin sheet magnalium, and the French constructors obtained the material for their flying machines from Hanover.

Not only the introduction of the motor balloon, especially the military balloon, has led to an increase in the demand for balloon fabric, but the sport of ballooning, with sailing balloons, has also witnessed remarkable growth. Thus the number of members in *aéronaut* clubs has increased about 30 per cent. within the past year and new clubs have been formed in many cities. The members of the German clubs own 30 sailing balloons and the clubs are already beginning to use motor balloons for sporting purposes. At the recent international balloon contest at Hurlingham, England, starting from the grounds of the Hurlingham *Aéro Club*, there were 31 entrants.



COUNT ZEPPELIN'S AIR SHIP "NUMBER FOUR."

[During a thunderstorm on August 5 the gas took fire and the machine was destroyed. The German people have subscribed \$400,000 to build another.]

—Courtesy of *The American Review of Reviews*.

In an article in the *Gummi-Zeitung* it is pointed out that while in the automobile the value of the product of the rubber industry (the tires) is about one-tenth of the total value of the automobile, in an airship, the rubber product, represented by the gas bag, constitutes the greater portion of the value. The value of the material in *aéroplanes* is much less, although in covering the planes of such *aéroplanes* as those built by Farman and Delagrangé, over 100 square yards of balloon fabric is required. In comparison, for an ordinary motor balloon, about 2,000 square yards of balloon fabric is required, making the value of the gas bag of a motor balloon about \$5,000, to which must be added the cost of making up, the filling tubes, etc. The steering and stabilizing planes of motor balloons are also mainly constructed of balloon fabric, so that the rubber material in a motor balloon of medium size represents a value of about \$6,250.

The rubberized fabrics for ordinary sailing balloons are cheaper, but cost nevertheless from \$1.50 to \$2 per square yard, so that the balloon fabric alone is worth from \$750 to \$1,250. Varnished fabric, used extensively for sailing, never for motor balloons,



THE FIRST AMERICAN WAR BALLOON.

[Captain Baldwin's Dirigible, tested in August by the United States Government at Fort Myer. Balloon fabric made by an American rubber company.]

Courtesy of *The American Review of Reviews*.

costs about 60 cents per square yard in Germany. The low durability and strength of the varnished balloon fabric is due to the hardening or resinification of the varnish, causing the substance itself to become brittle and readily breakable.

The method of making both kinds of fabric may briefly be described as follows, according to the *Gummi-Zeitung*: For both kinds of balloon fabric cotton fabric, mostly percale, is almost exclusively employed. For varnished balloon fabric a single thickness of cloth is used, to which boiled linseed oil varnish is applied, the work formerly done by hand being now effected by mechanical means. In a thin layer this varnish has the property of taking up oxygen from the air and drying in a thin coating. The oxidization process is dependent on the moisture in and temperature of the air. As soon as it is completed, which is indicated by the darkened color and the hardness, the fabric loses much of its flexibility and readily becomes brittle. In special cases, where the greatest possible lightness is necessary, in place of cotton cloth a silk fabric is employed. The varnishing process tends to render this substance more than ordinarily brittle, and for this reason, and on account of its much higher price, varnished silk is seldom used for balloons.

Rubberized balloon fabric is made in the familiar manner, the



WRIGHT'S AEROPLANE AT FORT MYER.

—By courtesy of *The Automobile*.



GOUPEL'S AEROPLANE, 1883.

cotton fabric being treated with rubber in the coating machine. Two layers of fabric so coated are superimposed on each other in such manner that the threads (warp and woof) of the two thicknesses cross each other diagonally. This ensures to the finished cloth almost uniform tensile strain, or tear resisting strength, in every direction. The fabric is then vulcanized hot and finally colored yellow on one side. The yellow color is for the purpose of neutralizing the more actively injurious blue and ultra violet rays of light. No special color is required in the varnished fabric, the varnish itself furnishing the color. The yellow surface is made the outer side of the complete balloon. It may be added that only after prolonged experiment was a coloring matter obtained that was not injurious to the fabric.

Following, briefly stated, are the advantages and disadvantages claimed for both kinds of balloon fabric:

VARNISHED BALLOON FABRIC.

Advantages: Lower prices; smaller weight.

Disadvantages: Low durability; greater difficulty and expense of maintenance; greater susceptibility to exterior heat; packing, after landing, is much more difficult and troublesome.

RUBBERIZED BALLOON FABRIC.

Advantages: Greater durability; greater strength of the fabric; less expense of storage and maintenance; convenient packing after landing.

Disadvantages: Greater initial cost (compensated for by increased serviceability); greater weight (more than made up for by increased strength).

It is to be expected that the advantages of the rubberized balloon fabric will lead ultimately to its use altogether in place of varnished balloon fabric. For motor balloons and captive balloons, it is already used exclusively, for in both these kinds of balloon there is a much greater strain on the fabric owing to the increased pressure of gas. Rubberized fabric has doubled the tear-resisting strength of the varnished article, *i. e.*, more than 2,800 pounds per square yard, as compared with 1,500 pounds for the varnished fabric. Moreover, the rubber fabric deteriorates but slowly, as regards its tear-resisting strength, whereas the varnished fabric deteriorates rapidly. With varnished fabric, therefore, a bursting of the balloon by pressure of the gas is not impossible.

The French balloon interests were certainly not pleased by the prescription, by the French war department, of rubberized balloon fabric, obtained from Germany, for the construction of its military balloons. As a matter of fact, all French motor balloons are constructed of German balloon fabric, as are also the balloons of other nations, Germany, of course, included. In the success



A FLYING MACHINE NINETEEN YEARS AGO.

[Ader, near Paris, in 1891, "flew" 100 yards or more in this, sitting in a small car forming the center.]

of the great German motor balloon, constructed by Count Zeppelin, the German rubber industry has scored another triumph, but it is to be expected that when American rubber manufacturers bestow attention on this article, they will be able to compete in every way with the best balloon cloth made elsewhere.

An English firm has constructed gas bags for balloons from gold beaters' skin, which in the case of large balloons is laid on to the extent of six layers, the skins being so joined together that no seams are visible. The advantages claimed are lightness and toughness. A London newspaper report that Count Zeppelin's new great balloon would be made of gold beaters' skin is authoritatively denied.

INDIA-RUBBER MISCELLANY.

THE INDUSTRY IN AUSTRALIA.

THE business of Barnet Glass & Sons (Melbourne) has been formed into a company under the title Barnet Glass Rubber Co., Limited, with a capital of £45,000 [= \$218,992.50], of which one-half is in 8 per cent. cumulative preference shares and the remainder in ordinary shares. The Messrs. Glass have been interested in the rubber trade for nearly 30 years, beginning with the manufacture of mackintoshes from imported materials. In 1899 they put in a plant for the proofing of cloth and the manufacture of a limited list of rubber goods, to which additions have constantly been made.

REDDAWAY'S FRANCO-BRITISH EXHIBIT.

At the Franco-British Exhibition, in London, Messrs. F. Reddaway & Co., Limited (Pendleton, Manchester), erected a handsome pavilion near Machinery Hall, for the display of their canvas belting, rubber belting, printers' blankets, canvas hose, rubber hose, solid and pneumatic tires, and many other products. A set of pneumatic tires shown was reported to have run for nearly 7,000 miles on all kinds of roads. A special feature was a display of conveying apparatus, employing different brands of the company's belting. In connection with the exhibition Mr. Reddaway gave a dinner to representatives of the technical press of Great Britain and France, several members of his firm's staff also being present.

NEW YORK ELECTRICAL SHOW.

At the second annual New York Electrical Show, to be open at Madison Square Garden from October 3 to October 14, inclusive, in the section commemorative of the Atlantic cable of 1858 [see THE INDIA RUBBER WORLD, September 1, 1908—page 398] the Commercial Cable Co., through President Mackay and Vice President Ward, will make a loan exhibit of models, relics, appliances, maps, etc., covering the whole period of submarine cable development. The first annual show last year was so successful as to encourage the management to look for even a larger and more varied and better attended show this year, in view of the constant growth of the number of appliances of electricity, and the interest of the public in their use.

A PIONEER GUTTA-PERCHA COMPANY.

THE first company to utilize gutta-percha commercially in the United States are still in business, though the name has undergone some changes. Reference is made to the Bishop Gutta-Percha Co. (New York), who as early as 1848 laid a conduit of gutta-percha under the East river, at New York, since which time they have manufactured gutta-percha pipe for many purposes in any length desired and up to 4-inch bore. They manufacture a long list of other gutta-percha articles, including acid vessels, valves, belting, and tissue, their production of the latter having become very extensive of late.

HOPEWELL BROTHERS' ADDRESS.

IN the description in the last INDIA RUBBER WORLD of a new Hopewell tire case, the address of the makers was inadvertently omitted. They are the firm Hopewell Brothers, manufacturers of automobile fabric supplies, Cambridge, Massachusetts.

Growth of the Insulated Wire Industry.

By Ira W. Henry.

THE importance of rubber as an insulator for electric conductors must be considered an ever growing factor in the supply of and demand for this material. The constant increase in the use of electricity, not only for lighting, heating, and means of communication, but also for city transportation on street railways, and latterly on trunk lines, calls for enormous quantities of copper conductors insulated in a manner that must make them not only waterproof, but also flexible. Although many substitutes, such as cotton, jute, and paper, on account of their cheapness, are being applied as insulators, in every case where specially good service is required the engineer insists on rubber as a dielectric.

The first authentic record we find in America of the use of rubber as a dielectric is mentioned in the diary of Samuel F. Morse, inventor of the telegraph, describing a cable he made in 1842 insulated with cotton surrounded by rubber. The telegraph being the first commercial use to which electricity was applied, naturally called for insulated wire, and continual experiments were made by the Magnetic Telegraph Co., looking for a satisfactory insulation for submarine wires for river crossings, until finally a cable was laid across the Hudson from New York to Fort Lee in 1843, manufactured by Day.

This cable was followed in 1845 by another rubber cable made by Charles Goodyear for Ezra Cornell. From this small beginning the business of insulating wires naturally increased with the growth of electricity, for the various purposes, and the names of Day, Brixey, Habirshaw, Requa, and Reed are closely identified with the development and building up of the insulated wire industry in America.

The manufacturers of insulated wires and cables are now using enormous quantities of the best Pará rubber and the constant increase in the demand for their products has led the more far-sighted to closely investigate the supply from its fountain head. One large wire corporation sent two of its experts to South America to arrange for a constant supply direct from the forests. The trip proved highly satisfactory and a large quantity of rubber was purchased on the ground at a price that paid the expense of the trip, though financial complications arose to prevent a continuation of the business.

The importance of the quality of the gum used in insulation is hardly appreciated by manufacturers of mechanical goods. The rubber must not only be uniformly elastic, but of such a quality that it will constantly stand the strain of the electric current.

The importance of quality can better be appreciated when it is recalled that our battleships are literally managed, the guns pointed, loaded and fired by electricity, all controlled from a central point over rubber insulated wires. The United States navy specifications are very rigid and state that the compound shall contain from 39 to 44 per cent. by weight of fine Pará rubber. Any deviation from these specifications, which they detect by chemical analysis, means a rejection of the entire length of conductor.

The United States signal corps, which controls and operates all the telegraph and telephone lines owned by the government, has at the present time over 2,524 miles of rubber insulated deep sea cables in the Alaska territory. There is a similar system connecting the islands of the Philippine group operating over 1,572 miles of rubber cables in various circuits. The army, using as it does such a large amount of cable, and having constantly in mind the trying conditions under which it must be laid, has carefully mapped out a set of specifications calling for a compound containing 40 per cent. of pure Pará rubber, by chemical analysis, mixed with dry mineral water only.

The specifications laid down by the government have natur-

ally been made use of by electrical engineers for commercial work, as with the ever increasing voltage used power transmission the quality of the conductors must be improved to stand the break-down test. Rubber cables are to-day carrying successfully 20,000 volts pressure on underground lines and one plant now being constructed will use twelve miles of underground conductors under a working pressure of 28,000 volts.

Telephone companies are also very large users of rubber insulation. Every telephone is connected from the point where the service cable enters the building with wire direct to the instrument, made under the rigid specifications of the American Bell Telephone Co. Requirements as rigid as the National Board of Fire Underwriters are insisted upon and all wire is tested by the engineering representative of the telephone company before delivery.

During the past few years some of the manufacturers have attempted to use guayule in combination with higher grade rubbers. Results, however, have been anything but satisfactory as not only mechanical, but electrical conditions have to be considered in an insulator. Electro-chemical effects are constantly taking place in a rubber compound that is not properly mixed, and an excessive amount of free sulphur not only causes the insulation to deteriorate, but in many cases has corroded the wire itself so that ruptures have taken place and the resulting arc from the electrical current has started fires.

African, Madagascar, and other cheaper grades of rubber have been experimented with, but owing to the strict specifications of engineers they will probably never make much headway in this industry, as years of tests have proven that only Pará rubber, when properly compounded, will meet all the conditions to which a wire is subject and carry a current without loss to the desired distributive point.

Rubber wires have been in use in buildings in New York city for over twenty years. A sample of the original conductor with which the Fifth Avenue Hotel was wired in 1888, on being taken out during the destruction of that building this year, was in as good condition as when originally installed. This wire had not been placed in conduits, as is the present practice, but it had been strung on insulators between the floors separated only by fireproofing material from other wires. It had been subjected to extreme heat in fact; met the most trying conditions imaginable, but is still as elastic as on the day it was installed, and the density of the compound shows that the insulation is in no way impaired.

There are two methods employed in the insulating of wire with rubber. In the older or "cut" process, the rubber compound is first calendered in sheets, then cut in narrow strips and placed on the wire lengthwise, the edges of the strips being pressed together by roll cutters, making two longitudinal seams the whole length of the conductors, which are sealed in vulcanizing. The other process is known as the "seamless method" whereby the compounded rubber is forced through a die around the conductor, thus making a uniform or seamless surface. This system, it will readily be seen, does not depend on the heat of vulcanizing to form the compound into a homogeneous mass. Both methods have their advantages, the latter or "seamless" process being specified by the government for their submarine cables, owing to the fact that a conductor laid in the bottom of the sea must stand enormous water pressure, and it is thought that a seamed insulation might open under this strain, thus destroying the insulation of the cable.

One of the greatest aids to the industry was perfected a few years ago when the Wire Manufacturing Engineers' Association

was formed. This organization consists of the practical men of the larger companies who at monthly meetings codify specifications so that the quality of rubber compounds for various voltages would be the same with each manufacturer. All suggestions by electrical engineers were carefully considered and any new method or material discovered is carefully discussed for the general benefit of the rubber wire industry.

To-day, instead of having each manufacturer's catalogue describe a different form of wire for a stated purpose, the various types are standardized, avoiding the necessity of the lighting engineers specifying as to the thickness of insulations, percentage of rubber and the like.

The larger portion of rubber insulations manufactured is used in the wiring of houses and office buildings for electric lighting and interior communication. The electric current penetrating every portion of buildings would naturally be a great source of danger unless it was properly controlled. This has led the National Board of Fire Underwriters to make specifications which are rigidly insisted upon in the installation of electric lighting in all buildings.

The Underwriters' rules were sometime ago further developed by the formation of a testing bureau, under whose direction every foot of wire entering any building in the United States or Canada was tested under the supervision of the representatives of the Board of Fire Underwriters after it had been submerged in water for a stated period. The wire that withstood this rigid test was tagged and only such certified wire was allowed in any building on which a policy was given by the insurance companies.

Various samples are taken from time to time from buildings and from the factories where the wire is made, and presented to chemists to see that the compounds contained a sufficient quantity of rubber to meet the service requirements. In 1888, when electric lighting and the use of the telephone began to assume something like their present proportions, there were but five manufacturers in America making rubber insulations. These companies guarded their secrets very closely and the enormous growth of their business naturally led to profits which interested manufacturers of other rubber goods in this line of business. To-day there are sixteen or more manufacturers in this country turning out rubber insulations, but unfortunately it has been remarked by engineers that while some of the newer concerns have shown great merit in the manufacture of mechanical rubber goods, their compounds were not always suitable to stand the electrical stress and mechanical requirements which must be ever present in an insulated conductor.

This has been somewhat improved by the gradual shifting of some of the experts of the older companies to the new, but a close examination of the product shows room for further improvement, and it is believed that the newer companies will soon discover that the making of electrical goods call for the trained engineering in combination with manufacturing experience.

With the continued increase in the use of electricity in our every day life, the supply of rubber insulated wires must necessarily keep pace. As there is a constant improvement in all forms of electrical apparatus more high grade wire will be used. The amount of Par  for this purpose may at some time in the near future be greater than that used in any other branch of the rubber industry. Although this high grade compound is required for insulating wires none of it is ever recovered as in the case of mechanical goods. Electrical wires when replaced are usually sold for the amount of copper they contain, no attention being paid to the rubber compound, as it is separated from the metal by burning.

A GERMAN CABLE TO BRAZIL.

THE German-South American Telegraph Co., Limited (as the company's name would be expressed in English), has been formed with headquarters at Cologne, with

4,000,000 marks [= \$952,840] capital, to lay and work submarine cables from Germany to Brazil and to German West Africa. The capital stated is to be increased from time to time, in proportion to the progress of the enterprise. The new cables will be made in Germany, at the works of the Norddeutsche Seekabelwerke Aktiengesellschaft, at Nordenham a/Weser.

The manufacture of submarine cables in Germany has now assumed important proportions, and seems likely to become even more important, owing to the disposition of Germany to own and control its own cable lines as it does its own ocean steamers. The Deutsch-Atlantische Telegraphen-Gesellschaft now owns two cables between Germany and New York, which are operated profitably. The first of the two cables was made in England, but by the time it was laid the Nordenham works, due to the enterprise of Felten & Guillaume, the insulated wire people, and Franz Clouth, the Cologne rubber manufacturer, were in readiness for work, so that Germany has not since been obliged to rely upon foreigners for any sort of cable construction.

RUBBER SHOES IN CHINA.

[FROM "DAILY CONSULAR AND TRADE REPORTS."]

CONSUL-GENERAL AMOS P. WILDER, reporting from Hongkong, says that the extent of importations of india-rubber boots and shoes into south China has long been considerable, and at certain times American exporters have enjoyed a large part of this business. Mr. Wilder enters upon a discussion of the trade:

The customs returns for 1906 (the latest complete) show imports through the Canton custom-house "from foreign countries and Hongkong" of 404,522 pairs with a value expressed in United States currency of about \$242,615. This is surely a trade worth cultivating. Practically all these importations pass through Hongkong. The North British Rubber Co., Limited, is doing a large part of the business at present, their goods being sold through an English firm here which guarantees the sales and receives a commission for their services. Brand or "chop" plays a large part with the Chinese in buying rubber boots and shoes as in all else.

In 1902-3, owing to a shortage of supply for some reason from England and the Continent, other brands got in, including American rubber goods. Since then other attempts, some on a large scale, to break into the old patronage, have been made, but usually the experiment has proved an expensive innovation. At present the rubber shoes are British; to a less extent of Russian, German and Austrian manufacture. One of the most popular brands of rubber shoes (British) is quoted at about \$130 per case of 100 pairs assorted in sizes 9 to 10½ inches. This price is in Hongkong currency, the Hongkong dollar now being worth about 44 cents gold. [This would give a gold value of 57.2 cents per pair.] Rubber shoes are kept in stock by the European dealers, Chinese dealers paying cash when they take delivery from the stock.

If American rubber boot and shoe manufacturers are to get into this market, they must meet the prices of their competitors, and establish a "chop" which should be registered as a trademark in Hongkong and China. There is a practice of importing unbranded shoes, which are then stamped by the Chinese in imitation of other "chops." To get new brands of shoes popular among the Chinese, some wise advertising would be necessary.

It may be noted that the Chinese are more and more taking to "European" styles of leather boots and shoes. The rubber shoe has long been popular with them in a country where there is so much wet weather, and a favorite size is a half-height shoe.

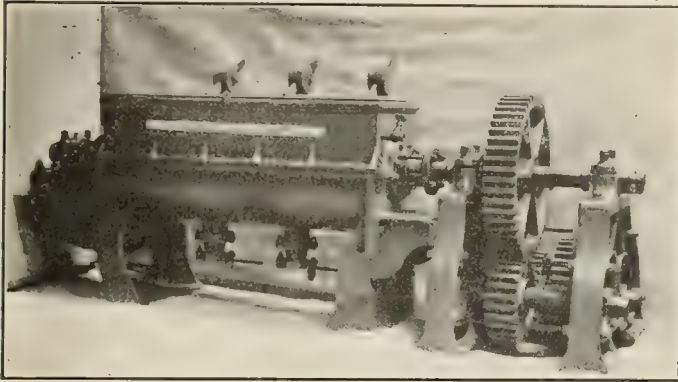
THE late Russell Sage, the New York banker, whose estate was appraised officially at \$66,356,718.90, is reported to have had considerable holdings in shares of the United States Rubber Co. and the American Telegraph and Cable Co.

Machinery for the Balata Industry.

THE constant increase in the production of balata [see THE INDIA RUBBER WORLD, August 1, 1908—page 372], which is nowhere to be obtained except in comparatively inaccessible regions, in the face of greater than the ordinary difficulties, so that, measured by the price of crude rubber, it is never a cheap commodity, indicates that there must be an incessant growth in the demand for goods of a type for which no other gum is so suitable as balata. It appears that the manufacture of balata goods is still confined to a few factories, the use of this gum not yet having been undertaken in rubber factories generally,

even in the manufacture of mechanical goods, such as belting, in which line balata has met with its greatest demand.

The present and prospective importance of balata in the rubber industry has led to the designing of many machines specially fitted for use in connection with this gum. It is in order, by the way, to record here a tribute to the designers and builders of machinery, as a more important factor than may have been recognized, generally, in the development of the india-rubber and allied industries. As THE INDIA RUBBER WORLD sometime has pointed out, what are called "inventions" are not, as a rule,



BALATA WASHING MACHINE.

[Designed to wash 2 cwts. of balata at one washing; driven with gearing from main shaft fitted with disengaging gear. Washing capacity, 10 cwts. in 10 hours.]



SINGLE COATING SOLUTIONING MACHINE 66 INS. WIDE.

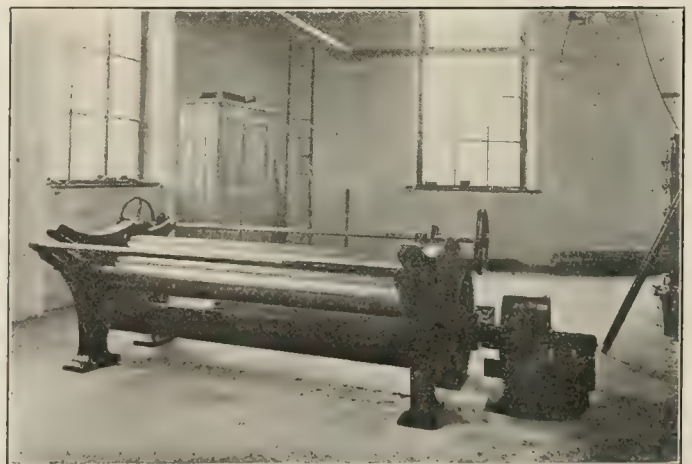
[Comprising one front upright hot box 10 feet high. Machine with 2 sets of cast iron rollers (hollow), solutioning trough and bogey, dipping roller with brackets, doctor blades for cleaning back roller, fast and loose pulleys, and belt striker with necessary gables and gearing for rollers. Double countershaft with tapered cones, belt striker, pulley for driving the machine, also fast and loose pulleys on countershaft. Belt striker and driving pulley for main shaft. L-shaped hot box, horizontal length 25 feet, upright end 15 feet. Brackets and sparrer rollers for drying arrangement, pair nipping rollers for recoiling the web, with gearing, fast and loose pulleys, and belt striker with necessary steam traps and wheel valves. Weight, 30 tons, complete.]

the result of one man's work. It may be that the merest suggestion of a new application of rubber occurs to a man unfamiliar with the qualities of this material, and certainly not competent, personally, to deal with it. He consults a rubber manufacturer, whose more practical knowledge leads to suggestions which further the development of the "invention." But



SOLUTION MIXER.

[With copper-jacketed steam pan, with gearing, fast and loose pulleys, belt sticher, steam trap, safety valves, and main driving pulley. Weight, 2 tons. Additional: Two stock solution tins, steam-jacketed with spring safety valve, and carbon solution tin.]

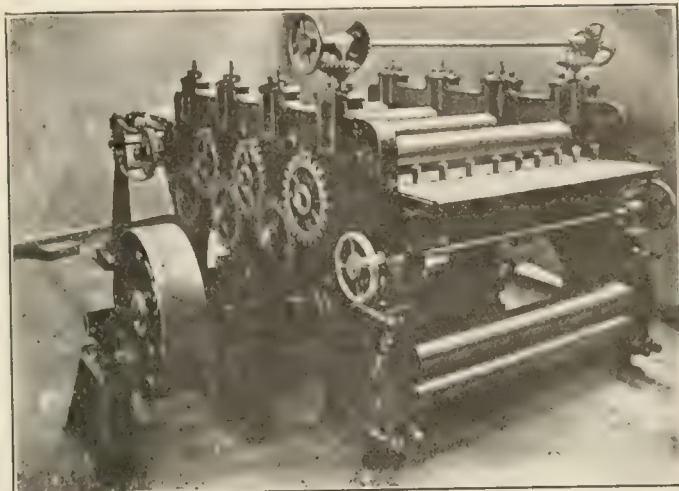


NIPPING ROLLERS FOR RECOILING.



RIPPING MACHINE FOR BELT SLITTER.

[Comprising two gables, four cast iron rollers, tension bars, raising and lowering roll; to suit knives and pointers, knife and pointer bar with 6 knives and 12 pointers, power-driven folding arrangement, fast and loose pulleys, and belt striking, also driving pulley for main shaft.]



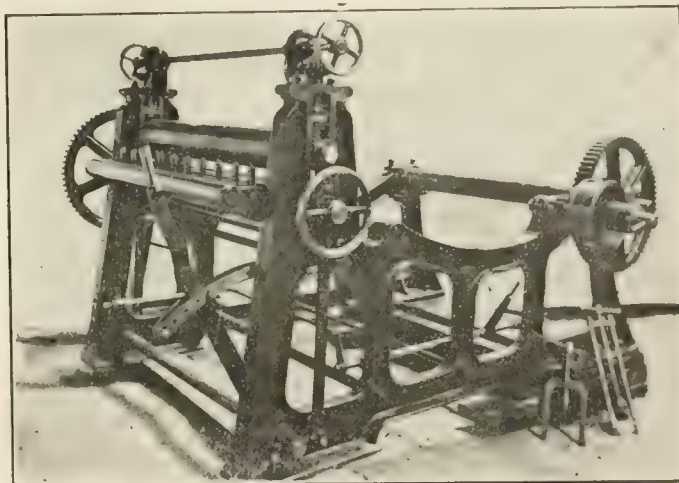
BELT COVERING MACHINE 45 INS. WIDE.

[Hot box 18 feet x 45 inches broad, with bracket and rollers; 2 rows steam pipes, steam traps and wheel valves. Machine, 1 set tension rollers (cast iron), 4 sets corrugated rollers (brass) with steel gudgeons, gables, and necessary gearing. Driving pulley tables, blanket carrying standards and rollers (wood), driving roller (cast iron) driven with chain gear fitted with disengaging gear. One set drag rollers and coiler combined with necessary gearing, fast and loose pulleys, and friction pulley on coiler. Fences on table of drag rollers. Raising standards with spindle and flanges, 2 sets counter-shafts (double), with 3 stepped cones on each shaft. Weight 3 tons.]



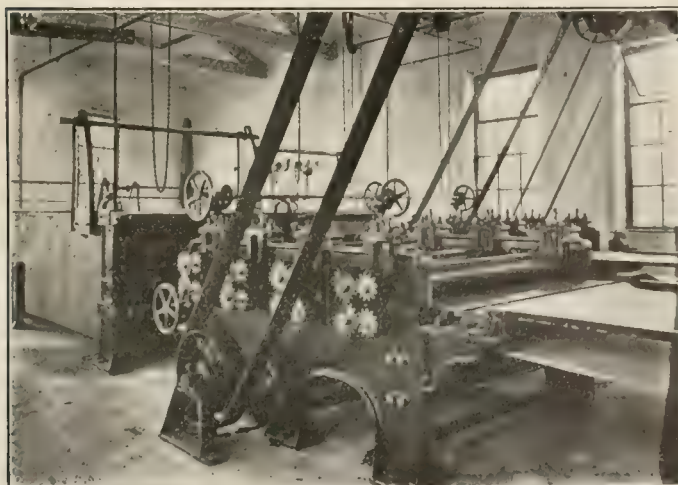
BELT STICKING MACHINE 60 INS. WIDE.

[Hot box 18 feet long x 5 feet wide, with brackets and rollers; 3 rows steam pipes, steam traps, and wheel valves. Machine, 1 set tension rollers, 4 sets corrugated rollers with steel gudgeons, gables and gearing, driving pulley, tables, blank carrying standards and rollers (wood). Driving roller (cast iron), driven with chain gear fitted with disengaging gear, belt coiling machine, raising standard with spindle, and flanges. Double counter shaft with stepped cones, necessary pulley for machine; also fast and loose pulley and belt striking arrangement, driving pulley for main shaft. Weight about 14 tons, complete.]



DRAG ROLLER AND COILER.

[For belt-covering machines, 45 inches wide. For recoiling the belt from the blanket carrier.]



ANOTHER VIEW OF BELT STICKING MACHINES.

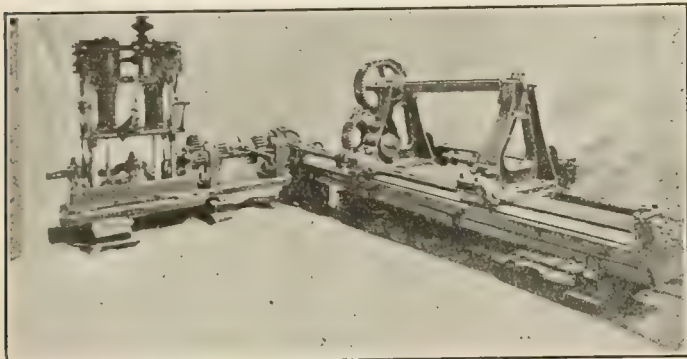
[Showing hot boxes.]



HYDRAULIC BELT STRETCHING MACHINE.

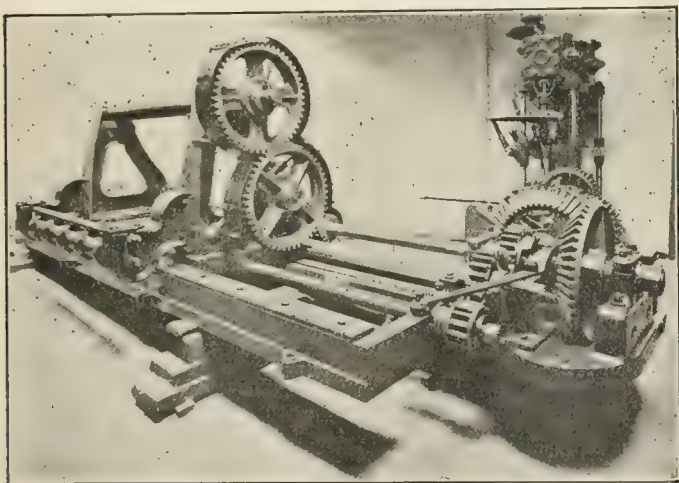
[Two 8-inch hydraulic rams with malleable cylinders and cast iron rams with 10-foot stroke; rope pulleys, guide posts, pressure gages, stays, two quadrant vertical jockey pulleys, double jockey horizontal slide, standard and sole plates for receiving shafts and special pulleys (72 of each); steel brackets to suit the channels for anchoring special lengths of belts; hydraulic double-acting pump, 3,000 pounds pressure. Weight 51 tons.]

even this may not be enough, and, finally, the engineer—the machine builder—may have to be called in before the mechanical production of the new article is possible, at least on a commercial basis.

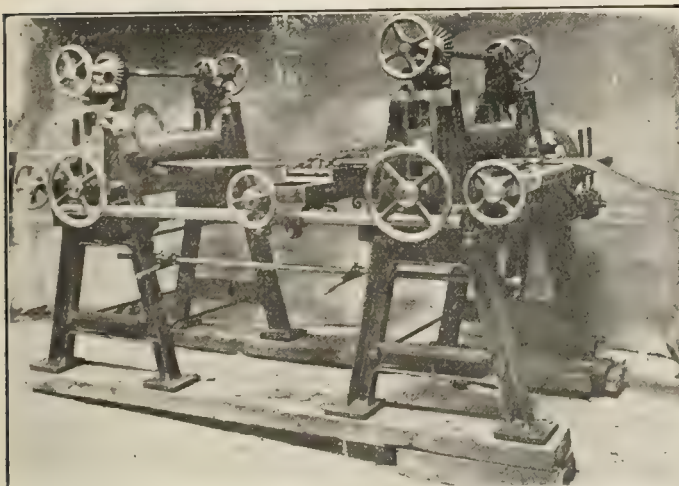


TRAVELING COILER.

[Comprising with vertical double cylinder, reversing engine, $7\frac{1}{4}$ bore x 10-inch stroke, fitted on gearing bedplate, then on to large sole plate with sliding coiler for pulling off, and on the belts to the stretching machine, and recoiling the belts after being stretched. Will coil a belt up to 45 inches wide. Weight 11 tons.]



ANOTHER VIEW OF TRAVELING COILER.



TWENTY-FOUR INCH BELT TRIMMING MACHINE.

[Comprising one set of raising standards, spindle, and flanges; trimming machine with gables; two sets plain rollers (cast iron), with saddle and adjustable knives; guide pulley on table; gearing and fast and loose pulley on machine and a measure; one 24-inch Belt Coiling Machine with friction pulley, countershaft with pulleys for driving machines in unison, fast and loose pulleys and belt striking gear, with trimming knives from 2-ply up to 10-ply. Weight $3\frac{1}{2}$ tons.]

It is not necessary here to discuss the peculiar properties of balata which render desirable a special line of machinery for its manipulation in the factory, but it may prove of interest to present views of several machines of this class, with a brief description of it. And in doing so we feel that not the least share of credit in the development of the industrial uses of balata is due to those who have brought these machines into existence. They have taken chances—discounted the future, so to speak—in devoting their intelligence and their energy to creating new factory outfits in advance of a pressing active demand, though it is evident now that the demand has arrived.

DICK'S BALATA PATENTS.

THE development of the balata belting industry owes much to the work done in this branch by the important manufacturing firm now styled R. & J. Dick, Limited, of Greengate, Glasgow, Scotland. While the business was conducted as a partnership, under the personal attention of the two brothers who founded it, some patents relating to balata were taken out by Robert Dick, the elder brother. As is well known, however, patents are not always any too informing, and the factory secrets of the Dick firm were always particularly well guarded. Probably very few persons—possibly no one—outside of the most trusted employes know how their balata is really made.

It may or may not be of suggestive value to the trade to have some details of a British patent (No. 7524—1886), granted to Robert Dick. It related to compounds for canvas driving belts, and, secondly, to a mixing and masticating machine for preparing and vulcanizing these compounds; at least such is the language of the specification. Two compounds are embraced under the patent referred to:

COMPOUND NO. 1.

[A hard tangle compound, for driving belts.]	
Pure, cleaned, hard gutta-percha.....	Parts 28.
Pure, clean, tough, selected gutta-percha or "balata" (preferably, more than less).....	11.
Pure, clean "law white"—a new gutta-percha (preferably less rather than more).....	9.
"Crumb" or good ground old vulcanized india-rubber.....	34.
Hardwood veneer dust.....	5.
Sulphur.....	6.50
Zinc oxide (or zinc dust).....	3.25
Flocking, of cut fiber of cotton textile fabrics.....	3.25
Total.....	100.

COMPOUND NO. 2.

[A softer, more elastic rubbery compound, for lighter driving belts.]	
Pure, cleaned, tough gutta-percha.....	Parts 8.50
Pure, cleaned "balata" or selected gutta-percha.....	8.50
Pure, cleaned "law white" gutta-percha.....	24.
"Crumb".....	33.
Hardwood veneer dust.....	5.
French chalk, powdered.....	6.
Sulphur.....	6.
Zinc oxide (or zinc dust).....	3.
Flocking.....	3.
Alum, ground.....	3.
Total.....	100.

The necessary apparatus for use in connection with these compounds is described in the same specification. Under another patent Mr. Dick described applying gutta-percha solution to canvas by running an endless belt over a table, presumably spreader fashion, coating one side of the fabric, then passing it over a fiber, the fabric being guarded by sheet iron flame traps so that it will not ignite, the heat of the fire causing the solution to pass into the fabric; then it is run over spiked rollers to dry it, after which it is wound on a reel. Subsequently the other side of the fabric is treated the same way.

IN Para, Brazil, New York bottled beer sells for \$1. Para is where much of the world's supply of rubber comes from. The demand for automobile tires has increased the price of rubber. Para's prosperity shows itself by putting up the price of beer.—*New York World*.

It is reported that an insulated wire and cable works, the first in Holland, is to be established at Doetinchem, near the border of Westphalia.

The India Rubber--Trade in Great Britain.

By Our Regular Correspondent.

IN my last notes I made some reference to rubber planting in Tobago, and since then I have had the opportunity of discussing this part of the world on the occasion of the visit to Lancashire of West India cotton growers under the leadership of Sir Daniel Morris. Strictly speaking, the topic of cotton

PLANTING IN THE BRITISH WEST INDIES.

growing hardly comes up for consideration in this journal, but as all rubber manufacturers buy cotton cloth of some sort or other I am not traveling far out of the range of legitimate topics. Judging from the speeches delivered at the various meetings, there is no doubt as to the success which has attended the cotton growing movement in the West Indies—more, perhaps, in Antigua, Barbados, and Montserrat than in Jamaica. The British Cotton Growers' Association, it may be said, has for its president and moving spirit Sir Alfred Jones, K. C. M. G., head of the Elder Dempster Shipping Co., and he has all along maintained that the movement which received by no means universal support in Lancashire would prove a commercial success, both in the West Indies and in West Africa. I said in my last notes that the sugar growers were to a great extent giving up their business and starting rubber plantations. According, however, to one of the cotton planting delegates, sugar is still to remain as the king, with cotton as the queen of planting interests. Nothing was said about rubber planting, and I am left to infer that its position will be that of knave rather than ace. One of the speakers referred to the fact that in some cases where a year or two ago they had obtained very satisfactory financial results, the area under cultivation had since been enlarged and pests and disease had made their presence felt, with the effect of seriously diminishing the profits. These facts are not without significance to acclimatized rubber planters, as there are not wanting pessimists who foresee an analogous condition of affairs. Sir Alfred Jones's interests are by no means confined to cotton growing, and in the conversation I had with him and Sir Ralph D. R. Moor, K. C. M. G., late governor of Southern Nigeria, rubber topics were prominent.

With regard to the much needed improvement in certain West African brands of rubber, Sir Ralph was emphatic that this could only be effected by penalizing the merchants for exporting rubber under a certain degree of cleanliness or purity. If this were done, the merchants would soon give the native gatherers to understand that inferior stuff would find no market, and that it was imperative for them to mend their ways. This, he said, would prove much more efficacious than any attempts to overlook or control operations in the forest. At the same time, the necessity for scientific research in connection with the tapping and coagulation was recognized, and there is plenty of opportunity for those who feel inclined to brave the rigors of the climate. According to Sir Alfred Jones the work done by the Liverpool School of Tropical Research has made West Africa quite healthy. This probably means that a great improvement has been effected in the conditions formerly prevailing; I hardly suppose that West Africa is as yet diverting the stream of tourists from the recognized sanatoria.

So far the present year has proved more prolific in legal cases than any which I can call to memory. The long protracted case

RUBBER IN THE LAW COURTS.

of Huttenbach v. North Western Rubber Co. has finally gone against the Huttenbach Co. in the Court of Appeal. By the way, a printer's error recently led to my making a statement in these notes to the effect that Pontianak as sold was usually dry. What I intended to say was that it was frequently very wet, low qualities containing over 60 per cent. of water.

Its exportation from Borneo in this state is in accordance with the general procedure with rubber out there, soaking in water being adopted as a safeguard against oxidation. Best quality jelutong, which has been as low as £14 10s. per ton, is now £18, and Liverpool merchants find it difficult to book forward lots at a reasonable figure, so much of it being wanted for the United States, which is still by far the most important market. This is rather a digression from the legal case with which I started, but an attempt to summarize the legal proceedings in which both sides scored a certain amount would take up too much space. The same remark may be made with regard to the New Motor and General Rubber Co., Limited, v. David Moseley & Sons, Limited, which went against the latter firm; Lotter v. Waste Rubber Co., and Francis Shaw & Co., v. the Sirdar Rubber Co., Limited. The point as to whether certain motor tire molds were correctly made going in favor of the well-known firm of rubber engineers. Such cases as these are rarely reported in the legal columns of the London press and only superficially if at all in the local papers. Where the amounts involved are not very large it seems somewhat surprising that the publicity of the courts is resorted to when this means the unveiling of private business procedure to the gaze of competitors.

I wonder if the following observation made by counsel in the waste rubber case will be generally accepted in America? When waste rubber was sent to America, he said, it was quite a common thing for it to be rejected, because the firms over there knew that by that means they could squeeze the unfortunate Englishman into accepting a lower price rather than pay for the goods to be shipped home again.

THE introduction of power signalling on railways has necessitated the employment of vulcanized rubber cables in a new

RUBBER CABLES FOR RAILWAY SIGNALLING.

sphere, and there seems every probability of a greatly increased demand for this particular type of cable. A word or two on the subject generally may therefore prove of interest, more particularly to those connected with the cable branch of the rubber industry. Although one or two other systems of power signalling are being tried, the greatest success seems to have been attained by the McKenzie Holland and Westinghouse Power Signal Co., Limited, of Westminster, a concern which incorporates the Westinghouse Signal Co., of America, with the old-established signal firm McKenzie & Holland, of Worcester, England. This system, which may be called an electro-pneumatic one, has already established itself firmly in America, and large installments have already been completed or are in progress on British railways. Without going too deeply into mechanical details, the following remarks on the mechanism of the system may be allowed. The points and signals are worked by compressed air, which is controlled electrically from the signal cabin. This control is obtained by electro-magnetic valves in connection with each air cylinder, and they are energized, or de-energized, as the case may be, by the movement and resultant position of the lever in the signal cabin. Some of the benefits incidental to this system are speed and reliability in operation, additional safeguards that would be impractical with a mechanical installation, a saving in the number of signal boxes and signal men—as a larger area can be controlled from one box—and the relief of the signalmen from exhausting manual labor. The rubber cables, of course, connect the valve of the air cylinder on the signal part with the signal cabin. They are only of small diameter, not more than ¼-inch over all, including the lead covering. The best quality of rubber is required and the cables are submitted to certain electrical tests by the company before use.

WE have heard so much of late about the forthcoming synthetic rubber that a reference to another tree product which has been successfully synthetized may not be without interest. More than one chemical process has been employed for making synthetic camphor, and there is no special patent in existence which makes the business a monopoly for one firm. It is important to recognize this because it has been assumed from the failure of a company specially concerned with the manufacture that the commercial production of synthetic in itself has proved a failure. This is far from being the case, as one or two chemical firms, by reason of their intimate knowledge of the processes involved, are now making it successfully. Firstly, a product somewhat similar to camphor is made, this being iso-borneol acetate, and this after being saponified and oxidized yields actual camphor. This is the same as the natural product, except in its optical character. Curiously enough, the synthetic camphor is composed of equal parts of dextro and lavo rotatory substance while the natural is entirely dextro rotatory. Unless a very close combination is effected between the Formosa producers and the chemical manufacturers it is clear that the celluloid makers who are the principal users will reap most of the benefit from the discovery, a considerable reduction in price having already occurred. At the same time buyers of natural camphor are not disposed to take up the new product without a considerable inducement in the price, recent quotations showing that while the Formosa camphor sells at 2s. 5d. per pound, the synthetic is priced at 1s. 10d. According to those closely connected with the trade there is little likelihood of any combination being effected between the growers and the chemical manufacturers to keep up prices, so that a further decline may be confidently looked for.

SOLUTION FOR CEMENT WORK.

UNDER the heading "Quellung oder Lösung" (Turgescence or Solution), an unsigned article in the *Gummi-Zeitung* contains some matter of considerable interest to the rubber cement manufacturer. The writer thereof mentions Macintosh as the pioneer in manufacture of waterproof cloth, who also applied his rubber cement for sticking together his "kamptulikon" tiles. These were cut from sheets made by mixing cork powder, fibrous materials, and india-rubber. It is said that these tiles were extensively used as a lining for the royal mews in Windsor.

From the various solvents used, ether is given as one of the least satisfactory ones, which has been already applied in early days by Maquarh and Nees Von Esenbeck, who ran the latex of a *Ficus* specimen into the solvent. Solvents in general use, as gasoline, benzine, naphtha, toluole, and the like, are considered to swell only the india-rubber and make it sticky and flowing—that is to say, to change only its consistency. The proof of this proposition the author finds in the difficulty (the author says impossibility) of filtering a benzine cement through a paper filter.

As the most advisable way to make a rubber benzine cement, it is recommended to cut the raw rubber in thin slices which are to be allowed to dry completely before they are soaked in benzine, under careful stirring, and afterwards so much solvent is added as to get the desired concentration. Any unnecessary stirring is to be avoided, in order to save the tissue of the rubber and give the cement the highest tenacity.

For incorporating pigments into cement, the author points out that this should be done on the mixing mill before the rubber ever touches the solvent. Benzole is given as a specially good turgescence for rubber. From such a thick india-rubber solution the rubber itself can be precipitated by alcohol again as a white substance, which, however, changes its color under the influence of light and air.

As a true solvent for rubber the author recommends amyl-acetate which is said to dissolve india-rubber at a normal tem-

perature in the course of a few days, the cement being of a more or less dark color, according to the concentration. After evaporating this solvent the india-rubber is recovered unchanged. The author suggests that this solution is most suitable for impregnating porous materials, and thinks that the application of such a solution for impregnating leather gloves for electricians would be a success.

Though a solution of rubber in amyl-acetate is of a more liquid consistency than a benzine solution of Pará rubber cut from the blocks and dried, it is hardly conceivable, why, for impregnating purposes, a mechanically broken down rubber would not answer as well. Such a cement is certainly much cheaper, will filter through porous material, and make leather gloves certainly as waterproof as an amyl-acetate cement. There is no reason why such an amyl-acetate solution must not be considered of a strictly colloidal character, which is signified by the qualities of not being capable of ionisation or conductivity, and only to very little degree of hydro-diffusion, but on the other hand, being able under certain conditions to gelatinize or pectise.

ERWIN MEYER, PH.D.

ONE MORE "ARTIFICIAL RUBBER."

[FROM "THE HOME AND COLONIAL MAIL," LONDON.]

THE claim is made for a professional man of Burton-on-Trent that he has at last succeeded in making synthetic, or artificial, india-rubber. According to the Birmingham *Daily Post*, the inventor, who does not wish his name to be made public, maintains that his is real rubber, which could be sold at quite 25 per cent. less than the present price of natural rubber, and then a margin would be left for a good profit. He has decided to promote a factory in Burton for the manufacture of the rubber—that is, if everything turns out as he confidently believes it will.

His achievement, he said, had involved tremendous work by day and many sleepless nights, and on more than one occasion his patience had been tried almost to breaking point. This limit was once actually reached. He had got the material into a certain condition, but could get no further with it. This, coming upon a long series of disappointments, induced a feeling of disgust, and in annoyance and despair he left the stuff, giving the thing up as a bad job. A few days later, in passing through his laboratory, he casually glanced at the mixture, and, to his astonishment and unbounded delight, there it stood congealed to the very point for which he had been striving for years. "You see," he explained, "it was necessary for the preparation to cool before it developed correctly, and so, in a sense, the discovery—at least in its final stage—was accidental."

This is by no means the first time that artificial rubber has been announced among new discoveries. There are reasons for believing, however, says our contemporary, the *Financial News*, that the present scheme is more serious than any of its predecessors, and that it is likely to be vigorously taken in hand.

PROGRESS IN PERU'S RUBBER AREA.

THE Loreto *Commercial*, a Peruvian newspaper, in a recent article on the work of the Peru-Pará Rubber Co. (Chicago), refers to what has been accomplished by their supervising engineer, Señor Oscar Mavila, in the matter of constructing roads through the rubber lands covered by the company's concession. Those roads are expected to have an important influence on the business of Loreto, since rubber may now be brought there overland in six days from points whence formerly it could only be brought in a roundabout way by canoes, sometimes requiring thirty days or more. The *Commercial* also mentions the importation by the company a telephone system, with sixty-two miles of wire, which is expected to facilitate the working of rubber at a greater distance from the water courses than has been the case hitherto.

The Annexation of the Congo to Belgium.

By Hon. James Gustavus Whiteley.*

THE American rubber trade has quite an interest in Congo affairs on account of the fact that the Congo Free State is an important source of crude rubber. For the past few years that country has been maintaining an annual output of about 10,000,000 pounds. Approximately half of this rubber eventually finds its way to New York via Antwerp.

It does not seem probable that the transfer of the Congo Free State to the Belgian government will have any marked influence on the rubber production of Central Africa or will, in any serious way, interfere with the proper development of the concessionary companies. There is nothing unexpected or revolutionary about the affair; it is simply the consummation of King Leopold's long cherished plan to give his people a colony as an outlet for their energies. The King got the expansion idea long before his subjects took it up. Nearly 30 years ago he saw that the Congo was a good thing going a-begging, so he put his mark on it and reserved it for the Belgians whenever they should get ready to take it over. For many years the Congo was looked upon by the world in general as an expensive royal hobby. To explore the country, to establish means of communication, to drive

On the other hand the liabilities of the Congo state, consisting chiefly in outstanding bonds, amount to approximately \$22,000,000.

These last two items about offset one another, leaving the vast natural resources of the country practically unencumbered.

King Leopold also turns over to Belgium all the lands and funds of the Fondation of the Crown, which embraces among other things quite an important tract of rubber forest lying to the east of Lake Leopold, and the revenues from which have hitherto been set aside in a separate fund by the King's orders, and used for public improvements in Belgium as well as in the Congo.

In consideration of receiving this Crown property in addition to the rest of the Congo, Belgium agrees to respect the concessions granted in the crown lands to two companies in which Americans are interested, and to the Mission of the Scheut Fathers; to continue to pay a subvention of \$12,000 to certain Catholic missions working in the district; to grant Prince Albert a small civil list of \$24,000 until he ascends the throne; and to give the Princess Clementine \$15,000 a year until her marriage.



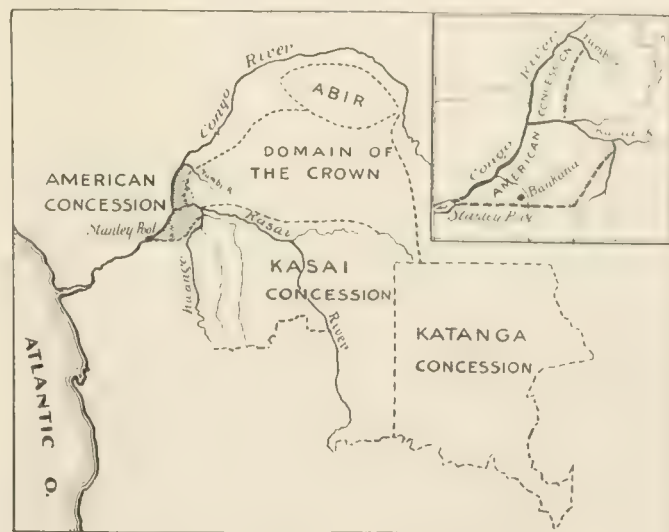
LEOPOLD II, KING OF THE BELGIANS

out the Arab slave traders and generally to "set the house in order" cost much good Belgian blood and much of the King's treasure, for the expenses came out of His Majesty's private pocket. Now that the heat and burden of the day is passed and the Congo is self supporting, the Belgians are willing to take it over and the King has handed it to them as a royal gift.

The annexation bill finally passed the Belgian parliament on September 9. The treaty of session between the Congo government and Belgium provides that the rights of all *concessionnaires* shall be respected and that Belgium shall take over all the Congo's contracts and obligations as well as its assets.

The most valuable asset is, of course, the natural wealth of the country, which occupies nearly as much territory as the portion of the United States lying east of the Mississippi river, and which is extremely rich in rubber, ivory and copper.

In addition to this asset, Belgium receives stocks and bonds, real estate in Europe, ammunition, stores, equipment, et cetera, valued at more than \$22,000,000.



AMERICAN CONCESSION ON THE CONGO.

[The shaded portion on the left denotes the 3,800 square miles ceded to the American Congo Co. The domain of the crown is outlined, and the areas under concession to the ABIR, Kasai, and Katanga companies. A detail map of the American concession is given on the upper right hand.]

Belgium also promises to finish certain public improvements already begun and which are to cost not more than \$9,000,000.

Belgium agrees further to create a fund of \$10,000,000, which shall be used by the Crown, with the sanction of the Colonial office, for the benefit of the colony, especially in such works as schools, hospitals, subsidies to missions and scientific expeditions.

It will be observed that the only two important amounts that Belgium is called upon to pay (namely the \$9,000,000 and \$10,000,000 funds) are expected to come out of Congo revenue and, moreover, she practically pays it to herself as the money is to go on public improvements in Belgium and in the new colony.

The only thing the King demands for himself is the right to continue to make use, during his life, of certain palaces of the Congo Crown situated in Belgium and on the Cote d'Azur and to receive the proprietary right in 100,000 acres of land in the Congo where he proposes to carry on experiments in the cultivation of coffee and cocoa as a useful object lesson to colonists.

*Consul General in the United States of the Congo Free State.

The budget of the Belgian kingdom and the Colonial budget are to be kept separate and the Congo bonds are not considered, legally, as a claim on Belgium but only on the colony. This question caused some debate in parliament, but is of little practical importance as, in the first place, there is not likely to be any default on those securities and, in the second place, if there were, Belgium would probably find it expedient to stand behind the colonial bonds.

So much for the treaty of cession which seems to start the colony on a fair basis and which, by providing for the two development funds (of \$9,000,000 and \$10,000,000 respectively) seems to insure that Belgium shall expend a proper amount on improvement of the property in accordance with the policy which has prevailed during the King's personal administration.

As far as the machinery of administration goes there is quite a change. The country passes from the personal rule of the King to the control of the Belgian parliament. There is to be a Colonial minister, as in England, who will be responsible to the Belgian parliament. There will also be a Colonial council, consisting of fourteen members, eight of whom will be appointed by the Crown and six by parliament, so that every shade of opinion will be represented. The finances will be controlled by parliament, which will consider and vote on the budget each year. Proposals for concessions will be laid before parliament before final action. If there is any objection to the conditions, parliament may of course bring in a vote of "want of confidence" in the ministry and thus overthrow the proposition.

There has been quite an agitation against the existing Congo concessions which seems to have originated among certain Englishmen who had none. Far be it from me to say that they were not actuated by the most disinterested motives, for they themselves have publicly proclaimed the purity of their purposes. It was claimed that the Congo concessions were contrary to the Berlin treaty by which the Powers (including the Congo government) bound themselves not to grant any "monopoly" in the Congo basin—a geographical term which includes possessions of France, Germany, Portugal, and England as well as the Congo Free State. As there are a number of competing concessionary companies in the Belgian Congo it is difficult to see how any "monopoly" has been created. Moreover, the Congo concessions are "on all fours" with the concessions of the other powers in the Congo basin. If the Belgian Congo concessions are not in accordance with the Berlin agreement the concessions given by other powers in the Congo basin are equally illegal.

The Congo concessions, most of which are for rubber, cover about one-fifth of the territory. The rest of the rubber forests is either exploited by the Congo government, or is open territory where traders may go in and trade indiscriminately. The natives own their huts and villages and their farms. Most of these lands are held tribally, but there is no appreciable amount of rubber on these holdings on account of the fact that rubber had no value to the native until after the arrival of the white men. Hence, the great rubber forests were never appropriated by the native tribes.

These concessions have been granted by the Congo government on various terms. It may be said in a general way, however, that the State has usually demanded a half interest in the profits, or 50 per cent. of the shares, as the price of the concession. The dividends on these shares have been put into the government treasury and are used to carry on the administration. None of it has ever gone to the King personally.

Some of the concessionary companies had, at one time, a large amount of administrative jurisdiction over their concessionary districts, almost as much, in fact, as an English "chartered company." This furnished the companies with a means of coercing workmen, which was sometimes abused and which was found undesirable. The King abolished this system several years ago, so that at the present day no individual or concessionary company can in any way constrain a native to work. This principle

is embodied in the new Colonial charter (which is a sort of "constitution" of the new colony), but inasmuch as it has already been put in operation by the King it will cause no unsettling of labor conditions.

The rubber companies have to obtain their laborers in the open labor market by making an attractive offer of wages. In certain districts it is sometimes a difficult question. The native has a rather inordinate share of mankind's antipathy towards work, and as his wants are few and easily satisfied he doesn't always see the use of "getting busy." Of course there are some things which every self-respecting native wants, such as an accordion, a white umbrella, and enough cloth to buy a wife, and these things he is willing to work for. After he gets the wife he generally prefers to "lay down the shovel and the hoe" and let her support him, whereby he has more time to devote to the accordion and the shelter of the white umbrella.

While the labor problem is a difficult one, the rubber companies find it can be solved by the exercise of tact and patience and by studying the whims and fancies of the natives so as to offer them attractive rewards for work. That is the system they are working under now and the Colonial charter provides for its perpetuation. A native may work for a rubber company or not as he pleases. He cannot be constrained in any way. Moreover, a special committee has been constituted to look after the welfare of the native and to make a report each year.

COTTON PLANTING PROGRESS.

THE production of cotton in Lagos, in British West African colony, has not yet reached proportions to cause a revolution in the markets of the world, but it is not to be overlooked in dealing with the whole cotton situation. What has been done affords evidence that the soil and climate of Lagos are favorable to cotton planting, and that native labor can be made available for this work. What is more, the encouragement given by the British Cotton Growers' Association, backed practically by the cotton industry of England, is to be taken into account. The following figures, relating to exports from Lagos for the first half of 1908, are from an official source: Exports of cotton, 4,001 bales, valued at £37,079 [=\$180,444.90]; exports of cotton seed, 4,116,965 pounds, valued at £4,458 [=\$21,694.86]. Lagos is now an important source of rubber, but did not reach this condition all at once; in fact, it was ten years after the export of rubber began before it equalled in value in any year the present output of cotton.

Six prizes for cotton grown in the Federated Malay States were offered at the fifth joint annual Agri-Horticultural Show, at Kuala Lumpur, Selangor, held August 10-12.

IS "DIABOLO" DECLINING.

WHILE the rival alleged inventors of the game of "Diabolo" in Europe are still at war, the game would seem to be already on a decline. Although several of the leading sporting goods firms in America have been active in attempting the introduction of the game on this side of the Atlantic, it has as yet shown no signs of popularity here. A writer in the *New York Sun* says:

"Diabolo did not last long here and indeed never took as it did in Paris and to a certain extent in London. Last spring and at the beginning of the summer a good many children were to be seen playing it hereabout, but now one is scarcely to be found. Some of the department stores employed demonstrators to teach the game to customers, but to little effect.

"It's too simple a pleasure and too tame a game for Americans to take greatly to it," said an observer. "And, furthermore, few have the patience to learn the little balancing trick."

The Export Trade in Rubber Goods.

By Alexander Macpherson.

[NOTE.—This article is intended for the man who is considering the advisability of extending his sphere of usefulness to embrace the world's markets—not for the manufacturer who is already doing a large export business.]

BEFORE launching out it is well to consider how you will handle the business when you get it. If going into the export of rubber shoes with the idea of working off surplus stocks, "Don't." Lasts for the Australian trade differ materially from *a la mode* in America. Northern Europe calls for larger sizes than elsewhere. It is a mistake to think you can fill orders from abroad when you are slack, or when you like. You introduce your goods, your importer sells them for stated delivery and usually orders well ahead. He has spent his time and money getting business for you and states that he must have delivery at a specified time. To be fair, you must ship to meet his requirements. If you do not, he is out of pocket and so are you. It has cost you money to open up in new territory, and repeat orders are generally required to make a real profit. You must plan to make from special lasts and to turn out the goods in time to reach a certain steamer, or a season's trade may be lost by the importer and a good customer by you. In order to do a successful export business you must be prepared to give export orders first attention, even if at a loss of profit obtainable by marketing an equal given quantity of goods at home.

In mechanical rubber goods you may have to make many special lines to do any great volume, and plan to ship goods of dimensions unusual on the home market. To follow the English practice of turning out garden hose in 60-foot lengths would mean ripping up the hose room and putting in new plant, and besides you can sell the 50 foot "coils," as the New Zealanders call them, almost as readily. But it is no use sending 400 foot rolls of 12 inch 6 ply belting to Mexico, when 100 foot lengths are ordered done up in separate bales so as to ride mule-back over the mountains. Your man knows how he wants goods packed. If he orders "specialties" generally done up by you in cartons, to be shipped 100 pairs in bulk in a case, he wants them that way, and he wants them at a figure lower by the price of the carton. He also wants them in as few cubic feet as possible to keep down the freight charge. The steamship lines accept your shipment to be charged for cubic measurement or weight at their option. The goods may travel thousands of miles and be transshipped many times, and must be packed accordingly. Containers for home shipment will not do for foreign; cases must be strong and metal bound; bales must be doubly secure and compact as possible. Safeguard against pillage *en route*.

Export business means increased details in your office, perhaps extra staff, and the supervision of some of its best members. It means cablegrams and cable codes to study. You must be posted on declarations for the different countries and to pay handsomely for some of them. It means being posted on freight rates and sailings of vessels. Your shipping arrangements must be made at the ports of sailings. You will educate yourself in foreign exchange and will get posted on letters of credit, new forms of drafts and settlement in London by cable. All this takes time, money and minutest attention to detail. You may get a heavy foreign mail to-day, the return mail closing next day, with no other for four weeks, numerous inquiries to answer, quotations on special lines to give, and a friendly buyer's commissions to execute in time for to-morrow. Such occupation will likely keep you out of mischief for that day and night, but your staff will hardly be expected to appreciate the extra tasks. Then there is the study of trade-mark laws to be considered. Should you, after all, decide seriously to tackle the export business,

then, (1) Where shall you send your goods? (2) How shall you introduce and market them? (3) What shall be your prices? (4) On what terms shall you sell and how collect? There are many other queries but these are the main ones: the others are sub queries.

WHERE SHALL YOU SEND YOUR GOODS?

You want to know which countries are most likely to absorb your goods in the largest quantities and on the most preferred tariff basis. If you are Canadian, if you go the right way about it you can obtain fairly accurate information from your government at Ottawa. If manufacturing in the United States, a letter to the department of commerce and labor, inquiring the imports of stated lines of rubber goods into any given country, together with the value of goods made in such country, also information as to the customs tariffs, giving you particularly the tariff preference your country's goods enjoy, would be likely to be answered by a letter giving such information or promising to obtain it for you. It will pay you to be posted in advance. In Japan there are factories making rubber goods and ready to promptly fill special orders. British and Canadian manufacturers send their goods in on a 10 per cent. basis, while the Japanese collect 40 per cent. *ad valorem* on those from the United States. Americans do sell rubber goods in Japan, but these circumstances are to be considered. Take Brazil, on the other hand, with which country the United States have a treaty whereby certain manufactured products including rubber enter Brazil at a rate of duty 20 per cent. lower than that collected on goods made in other countries. Brazil has been developing rapidly, railways building, no rubber manufacturers there; most stable government in South America. Why not make full inquiries about Brazil? But don't spend a thousand or so in trying to open a market for rubber footwear there. The largest dealers in leather shoes in Rio de Janeiro told me once that he had had two cases of sand shoes in stock for years. But under a high protective tariff some general manufacturing is done. The established and new railroads are and will be users of mechanical goods; mostly all to go from Europe unless American manufacturers avail themselves of their opportunities. You will be conferring a blessing on the Brazilians if you establish your goods on their market. I never saw such rotten rubber goods as were on the market when I visited it in 1904, and still I sold good goods, at a fair profit, and more have followed them. These countries are mentioned for purposes of illustration. The preliminary investigation of any field can be carried on at long range at practically no expense beyond postage.

HOW SHALL YOU INTRODUCE AND MARKET YOUR GOODS?

There are many ways. There are the New York exporting houses who would likely take on your line. You may obtain a list of importers of your class of goods in a given country. You may write them with catalogues and price lists. You may learn of reputable agents and may correspond with them. At the same time you may take up much time and may burden your files with a voluminous correspondence. You may be called upon to send many samples (no charge), and may be induced to contribute many dollars towards traveling, office and advertising expenses, and if your goods are "mechanicals" I am satisfied that you will only be using up energy, time and money to no avail. In my experience the right way to introduce and market your goods abroad is by means of a personal canvass on the part of one of your head men; the higher up the better, so long as he is adaptable, has good judgment, has enough decision

of character to act on his own judgment and sufficient backbone to stick out for a fair profit and your established export terms. I shall take the liberty of quoting on this point from a "Report Upon the Conditions and Prospects of British Trade in Canada," by Richard Grigg, special commissioner of the advisory committee of the British Board of Trade on commercial intelligence:

"To send a son or nephew not long from school on a trip to Canada, which is designed to combine pleasure, education, and business, is admirable as far as the two first objects are concerned, and useless or worse than that as regards business. The men who go out for business purposes should be thoroughly competent and able to speak with sufficient authority at home to command attention for the lessons they learn."

The man who goes should know it all when he returns. Be prepared for a stiff expense account. The "foreigner" is "had" at all turns. You or your man represents a big house—the farther away it is the larger it must look. Entertaining cuts a large figure in some countries, and when the country is reached special clothing may be required and only procurable at high figures. Suppose it is decided that you shall go yourself.

WHAT SHALL BE YOUR PRICES?

In shoes you can readily obtain the prices of the large exporters of your country, and although your goods may in your opinion be much better you will, I think, find that you cannot with your unknown line obtain at first prices much greater than those of the other makers unless you give a long exclusive agency to one buying house in a country, and that without any guarantee of quantity to be purchased. I had the pleasant experience in one country of being told by several that my line, which had been known there for some years, was the best on the market, "but a little high in price." I have often wondered, aside from the merits of the goods, whether the "little higher" price had not something to do with the esteem in which the goods were held. Determine at what price you can profitably sell your goods net and then base your selling price and commission upon this figure, having the prices of the country in mind. This applies to mechanicals as well as shoes, but in mechanicals your prices may vary from those of others more greatly than they can in shoes. The standards vary so greatly in the former that their profitable distribution is much a question of salesmanship. Be able to give prices in the currency of the country, and net figures. Lists differ in different countries so that discounts do not mean much to the average foreign buyer. Study foreign moneys and the metric system.

ON WHAT TERMS SHALL YOU SELL AND HOW COLLECT?

Terms are various. I have seen statements showing terms from 90 days to twelve months. On twelve months terms and with fair prices you may expect to do more business than if you sell for cash. If you had a salaried staff to sell and collect you might make your terms the same as at home, but when you are distributing from North America the only clean safe way to do business is sight draft against letter of credit or sight draft against documents. I was diffident about quoting such terms at first; it seemed to me worse than C. O. D. It seemed unreasonable that the customer should be expected to pay for the goods before he had even seen them. But all the large importing houses are used to it. In fact, one house I know of insists upon paying cash when they place an order. If weight cannot be exactly computed, they prefer to overpay and have the balance to their credit.

Useful information to carry is weights of the goods; inland freights, if any, so you can compute cost of laying down at sea-board; bonding charges, if any; cartage charges and cost of consul's certificate. All figure in the cost of laying down, and while freights are not so important on the percentage basis in the rubber business as in some other lines, the information is useful. Remember that the percentage to lay down varies

materially with the value of the goods and the space they occupy. Cheap suction hose takes a greater percentage to lay down than high-grade valve gum in 6 x 3 x 1-inch slabs. Don't prepare to quote a definite laying down percentage; this is bad policy when you sell f. o. b. your factory, but be posted on these percentages so your customer can form his own laid down cost.

Say Brazil is your objective point. You have procured your letter of credit and accompanying letter of indication and the bank has told you how to keep and use them. You have say £50 in gold on your person. The "sovereign," costing about 487 cents, will buy as much as the \$5 gold piece costing 500 cents. A passport may be useful. It is easily procured and does not take up much room. Take invoices of your samples in triplicate, each with the proper declaration of the country attached. See that your life insurance policies have endorsed upon them permission to travel to your destination and back. You may be asked to pay a small extra premium. Additional accident insurance may be advisable and you may insure your samples and effects. Have duplicate sets of samples. Send one set ahead and take the other with you. Take a cable code with you and advise the office of it. Keep the office posted.

Of course you have seen to it that you have secured the best accommodation on the steamer and that your stateroom is on the side from which the prevailing wind comes. And here just one word in your ear on the way to the Grand Hotel Something-Or-Other. They are all "Grand" there. You may be sorry for them all in the country you are visiting, but what's the use of rubbing it in? Kicks against his poor old country will hardly warm up a prospective buyer. If these poor benighted individuals talk Portuguese or Spanish or whatever, give them credit for at least a little business ability. You may be able to hit off a four hour clip when you are at home, but the man in Rio, for instance, will know how to regulate the pace and you will find his mile an hour will give you more business there than the faster rate. Don't push them too hard. Remember that you are not there to educate them. Say the best you can of their country and deal with them as equals. Let them take their own time. Study them and their form of civilization and you will be traveling along the line of least resistance. Be prepared to drink coffee at all hours in Rio de Janeiro, as you would tea at 4 o'clock in a customer's office in London. By the way, if you think of turning your caravan towards that Mecca of the American manufacturer, dear quiet slow old London, cultivate patience and be prepared to give this most conservative market in the world a try out of at least three years before expecting profitable results, but we are in Brazil, not England. Adaptability is the text of the foregoing sermon.

Now serious work begins. Certain large exporters have their selling policies defined and will not depart from a set method of distribution. It is well to study local conditions. Frame thoroughly a policy which in your opinion is best suited to the field. Here is where judgment and decision come in,—with no intimate or business associate to talk it over with, perhaps unfamiliarity with the language. I have made calls of investigation upon merchants, interviewed agents, been followed by agents and importuned to leave my goods in the hands of one house for distribution. I have sat around Sydney or Melbourne, a week at a stretch, forming my policy and looking for the best men to carry it out—all the time itching to get down to selling but not offering one dollar's worth of goods, and if that is not hard work I do not know what is. To get the balls rolling is comparatively easy, but to decide where to roll them and who shall keep them rolling when you are back home is another matter. You are spending time and money, lots of both. The responsibility is yours. On you the glory showers or the blame falls a year hence. A wrong move, and you might better have spent the time on the farm and the money on the heathen.

Just a few words on an agency agreement. You must make the remuneration sufficiently attractive or your agent will devote

his energies to more profitable lines. He wants a fair return, and the really big agent will be best satisfied with the commission that will not hamper the free distribution by increasing the sale price. He wants a commission on all that comes into his territory, and rightly so, but make him agree to earn it all. Make him turn in traveler's reports with shipping marks, and make him agree to cover the ground at least a certain number of times a year, and check him up as well as you can. Goods entering the country after being sold into another country should not be claimed upon, but if a New York buying house orders goods to be shipped to a certain country, the shipping mark being one reported by your agent, then he is entitled to his commission. Insist upon shipping marks being given by the buying house, and thus know if your man has earned his percentage.

Having sized up your situation and having had your final draft of agreement signed by the party of the second part you are so far on your way, but do not post home then. You will notice I state "signed by the party of the second part." The agreement is *bona fide* on the part of both, and you intend to carry it out, but it is advisable to have it clearly understood when the agreement is being discussed and drafted that final execution rests with some one at home and that the instrument is to be dated at your headquarters. A "power of attorney" to sign for your company could easily have been obtained, but you are just as well off without it. No business man is going to incur the expense of your long business trip, size up the situation, and then draw up an agreement that he or his *confreres* will throw out on his home arrival, but two heads are generally better than one and you may find out that you have neglected to cover some point and this may be covered by correspondence at the time of final signature. The place of final execution is important. There are such things as disagreements and lawsuits. Have an eye on the possibilities and place yourself as advantageously as possible in case of misunderstandings. If you date your agreement Tokio it may be liable to interpretation in a Japanese court of law and you may be forced to attend in Japan at considerable loss and inconvenience to yourself, if you wish to have at least a look in. An agreement dated at your own town may shut off what might otherwise be an unjust lawsuit. Likely your agent is more keen to tie up with you than you may appear to be with him. He may overlook what may appear to be minor details, but because he is sloppy in his business methods is no reason why you should be.

Then to the pleasant occupation of filling the long felt want for your goods. Even if it is a straight selling proposition to one house do not sail away home with your substantial opening order. Visit the more important business centers with your agents. Open up, get him to make the *entrées* and then with him by your side sell the goods. He gets the commission but he also drinks in the rich vintage which has been ripened by you through the years; his thirst for knowledge is satisfied and he is stimulated to follow in your wise footsteps. By the time half of your prospective customers have kept their appointments and the other half kept you cursing over their lack of appreciation of your valuable time by forgetting to turn up, your agent will have all your arguments noted, stored up and ready to be improved upon when you have left. One of the heartbreaks for the man who likes to send the orders in is to find that many of the largest houses send all their orders through their London or New York buying houses. Some houses even object to selling the goods, depending on their buyers in the large manufacturing centers to purchase to the best advantage in fulfillment of requisitions from the local house.

Judgment will tell you how long to spend on the territory. Your agent, be he on commission or buying outright, will be glad to have you spend a year with him, but by the time you have visited the principal centers he and his individual travelers on the different grounds will be posted on the merits of your lines and have your arguments by heart, together with some new and

perhaps better ones of their own, and then is the time to pack up for home.

You have accomplished your mission in the new field. Procure a copy of the custom tariff and regulations, and then back to where the staff are ready to tell you all about the good time you have been having while they have been slaving away at the same old grind. If you are at all receptive, the trip has taught you more about your own line than you ever knew before. You have learned a lot about other lines made elsewhere, and best of all you have broadened out and learned new business methods which may be put into practice with advantage. Then follow your men up, give them a good long letter by each mail, take your articles up by letter one at a time and keep your men refreshed and enthusiastic. If you have several agents one form of letter may do for them all, but keep after them. Write individuals short personal letters. Let them feel there is a personality thinking of them where the goods are made. Keep them fresh, or much of your foreign effort will have been of no avail. Let them know that you are following the sales closely. Your traveling men like a pat on the back when they have "pulled off" a good thing; so does the man on the other side of the world, be he principal or employé. Send the buyers a Christmas card in your own name. Above all, fill your orders promptly and carefully—answer correspondence by return of mail—and get the sight drafts out with the documents.

GUAYULE AREA OF MEXICO.

THE problem of how long the natural supplies of guayule in Mexico will last depends, for one thing, on how much guayule land there is. Naturally. And who knows? The censuses of most things in Mexico are not yet complete, as is indicated by the fact that a geographical commission appointed to map the towns of that republic reported recently the discovery of 7,679 towns which were not officially known to exist. How, then, should any one be expected to know how many square miles are covered with the guayule shrub? Of course, all these towns newly discovered by the government of Diaz are not of the importance of Oaxaca or Guanajuato, but all the same their populations will not longer escape paying taxes. Speaking of towns recalls the fact that when THE INDIA RUBBER WORLD inquired, in regard to a certain guayule property, "What town it was near?" the answer was: "That is hard to say; there are a good many towns on the hacienda." One can see how easy it would be for the *haciendado*, in fitting out his periodical tax list, to forget to include all the towns on his property. The fact is that there are yet many vast landed estates in Mexico, the resources of which are revealed only when Americans or other outsiders take an interest in their development, and not the least of these are in the states located within the guayule zone. The sole question, however, is not how much guayule country is there to be worked, but how much of the unused shrub is yet commercially convenient to the centers of the guayule rubber industry.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha from the United States for the month of July, 1908, and for the first seven months of three years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July, 1908.....	\$105,444	\$208,310	\$306,090	\$619,844
January to June.....	608,681	448,014	1,814,046	2,870,741
Total	\$714,125	\$656,323	\$2,120,136	\$3,490,584
Total, 1907.....	795,065	694,075	2,352,870	3,842,010
Total, 1906.....	603,530	615,154	1,803,512	3,022,196

Mechanical Goods Industry.

THE importance of the mechanical goods industry as affording a demand for india-rubber is perhaps more evident in the United States than elsewhere, on account of the existence of so many important works devoted to the production of this class of goods alone. That such specialization should exist in America, instead of each important factory producing a variety of goods is due to reasons which date from the discovery of vulcanization.

Charles Goodyear, the rubber pioneer, never became a manufacturer on his own account to a large extent, but such rewards as came to him for his invention of vulcanization were in the shape of royalties from manufacturers licensed to work under his patent. Up to 1844 the principal attempts at making rubber goods in America had been in the development of overshoes, but no success had been attained even in regard to these until Goodyear's discovery was made known. Naturally, the first licenses under the vulcanization patent were for its use in the footwear industry.

Subsequently other licenses were issued for the employment of vulcanization in the making of machinery belts, stationers' elastic bands, india-rubber gloves, waterproof clothing, and so on. In each case the manufacturer was permitted to utilize the new invention in only one line of goods. One license was for the manufacture of doorsprings alone, but an important business was built upon this seemingly slight foundation.

The Goodyear patent had the benefit of a special extension, making its total life 21 years, during which time the licensed footwear manufacturers were not allowed to make any other class of goods, and so with each of the other manufacturers. During those years, therefore, were developed, in different towns, groups of specialized rubber workers, which condition was continued long after the expiration of the historic patent. Whenever a new factory was established it was likely to be confined solely to that type of goods with which its promoter was most familiar. There is in the country to-day a factory in operation for more than a half century, and employing at times 4,000 workers, that has never produced a single article in rubber other than boots and shoes. Probably few of the employés there could turn out anything else in rubber. Similarly, with only two or three exceptions, none of the concerns now producing mechanical rubber goods has ever made any shoes.

Whether or not the policy of specialization is economically better or worse than that pursued in European rubber works, in several of which practically "everything in rubber" is made, might afford the basis for an interesting discussion. There would appear to be good reason, where it is possible, to keep a force of workers constantly employed on a given line of goods, thus rendering them always familiar with the details of production and always in a high state of efficiency, and there is some advantage in having the machinery of the plant always in operation. It is the fact of such specialization that such large outputs of a given line—airbrake hose, for example, or belting, or packing—are seen in the case of a single factory. No doubt in many cases economical production has been a result.

What have been termed "mechanical goods" have become so varied, however, that the factory attempting a full line can hardly be regarded as specializing very much. Hence, still carrying out the American idea, one will concentrate largely upon belting, another on tires, others on hose, while still others, leaving the heavier goods alone, will devote their attention to some specialty, say in mold work. But there are one or two factories in America that doubtless produce a greater variety of rubber goods than is to be seen in any single factory abroad.

It is practically impossible to estimate intelligently the volume

of mechanical goods production. But it may be mentioned that the last United States census, in reporting operations for the year 1904, gave the following figures for the rubber industry other than rubber boots and shoes, and it may further be mentioned that insulated wire is not included. The druggists' sundries trade is embraced, however, and hard rubber:

Number of factories.....	313
Capital.....	\$59,537,810
Salaries paid.....	\$3,664,645
Average number wage earners.....	\$24,882
Total wages paid.....	\$11,217,270
Miscellaneous expenses.....	\$8,087,962
Cost of materials.....	\$48,002,012
Value of products.....	\$77,950,095

It is probable that, in point of volume, the largest item of mechanical rubber goods is that embracing the many forms of packings, for steam and hydraulic use. When it is considered that every steam engine in the world, and practically every pump, requires to be "packed," and rubber enters into such a large proportion of all the packings made, it will be seen how important is this branch of the rubber manufacture. American packings have been introduced successfully into most foreign markets where a demand for any sort of packings exists, while, on the other hand, there is practically none imported.

Rubber belting for machinery has been produced in the United States in great variety, in immense quantities, and in sizes larger, perhaps, than have been constructed elsewhere. An important development in this branch has been in the making of conveyor belts, for use in grain elevators, in mines, and in factories of many kinds, for the economical movement of commodities. This general system, first devised in America, has become widely introduced, and while all the belting used for conveyor purposes is not manufactured in the United States, an important quantity for this purpose is exported.

The output of rubber hose, for various purposes, has become enormous. The large number of cities and towns having paid fire departments, with rubber or rubber lined hose embraced in their equipment, alone calls for the entire product of some good-sized factories, while such hose is also supplied by a dozen other concerns. The mandatory use on every railway train of air brakes and other safety devices calling for the use of hose, has created a demand for rubber which figures largely in the total output of mechanical goods. There must be taken into account also the widespread sale of common garden hose—something which is called for in practically every home in all towns having modern waterworks systems.

The exports of American-made packings, belting and hose, for several years past, have been stated officially to be of the values here given [for fiscal years ending June 30]:

1900-01	\$565,726	1904-05	\$994,100
1901-02	634,146	1905-06	1,221,159
1902-03	819,985	1906-07	1,253,369
1903-04	879,476	1907-08	1,347,775

During the last fiscal year there were shipped also to Alaska, Hawaii, Porto Rico and the Philippines similar goods to the value of \$162,602.

Note must be taken, under this heading, of tires, which would seem to come properly under the head of mechanical rubber goods. While, as already stated, packings probably bulk larger in volume, tires lead among mechanical goods products in respect to value. While some motor car tires continue to be imported—probably by the owners of imported cars—most of the vast number of tires used in America are of home manufacture. It is probable, indeed, that half the rubber tires used in the world are made in this country.

The Rubber Planting World.

EASTERN PLANTING ON A SOUND BASIS.

AS a result of a recent visit to the Far East by Mr. Herbert Wright, who has become the editor of THE INDIA RUBBER JOURNAL after several years' residence in Ceylon in an official capacity which brought him into intimate relations with the beginnings of rubber culture there, he expresses satisfaction with the progress which has been made up to date and the fullest confidence in the future of the planting interest. After a minute examination of the business he concludes that rubber cultivation is on a perfectly sound basis, and any who may have any misgivings he advises to make a visit to the East, where the plantations of *Hevea* aggregate some 350,000 acres [=545 square miles]. He concludes a recent article by saying: "At the present time the Eastern acreage in bearing is small, and less than 2,000 tons of rubber will probably be exported during 1909; ultimately the trees already planted should yield a crop equal to that annually exported from Brazil."

WARNING AGAINST TOO MUCH PLANTING.

THE *Ceylon Observer* in an editorial on the rate of increase in the production of plantation rubber in Ceylon and the Fed-

proved, whereas the possibility of a permanent decline in rubber prices on account of increased production has come to be recognized. Discussing the whole question the *Observer* says: "Of course, a great deal depends on the price of rubber keeping up. Should the price, eight years hence or so, fall by any chance to a level leaving little or no profit, we might expect every endeavor to be made to keep on the tea, even to the sacrifice of the rubber. But if, as is expected, the latter continues to be the more profitable of the two, as the trees come to be tapped and attain maturity, the tea is bound to gradually disappear." In this connection may be quoted from the *Tropical Agriculturist*: "Cacao is proving to be perhaps the best crop to grow with rubber in Ceylon. The best average growth we have yet measured is on an estate growing these two products."

PLANTING RESULTS IN MALAYA.

IN an analysis of the rubber plantation product of Federated Malay States for 1907 the *Pinang Gazette* shows that in ten districts 12,978 acres produced 1,684,620 pounds of rubber, or an average of 130 pounds per acre. The average per acre in the various districts varied from 90 to 166 pounds. No account is taken of the ages of the trees.

The Straits Settlements (Bertram) Rubber Co., Limited, report for the business year 1907-08 a yield of just under 40,000 pounds of rubber from 27,257 trees, or about 1½ pounds per tree. The number of trees tapped in 1906-07 was 27,257, and the average yield nearly 1¼ pounds.

ANTWERP AS A RUBBER MARKET.

PLANTATION rubber from the Straits Settlements appears regularly at the monthly sales at Antwerp, but this appears to be the produce mainly of one or two plantations which are owned by Belgian countries. The results obtained at Antwerp have been most satisfactory, with regard both to the prices realized and the low selling expenses as compared with London. An English gentleman in Malaya interested in planting declares that he would prefer Antwerp to London as a market for rubber. It happens, however, that many of the Far Eastern companies are under such relations to English financial houses as practically to obligate the planters to ship their produce to London. Ultimately, however, any such relations will have ceased to exist when the producers of rubber will naturally seek to market which affords the most favorable results. Of course, all the rubber produced out there is not going to London to-day, shipments being made direct to most of the rubber-consuming countries, including the United States.

RUBBER ACREAGE IN THE DUTCH EAST INDIES.

THE total acreage planted to rubber in Java is estimated by a writer in the *Ceylon Observer* at 58,000, the acreage in Sumatra at 25,000, and in Dutch Borneo at 7,000. Probably half the total is planted to *Ficus elastica*, which was set out extensively before the introduction of *Hevea*. An English authority estimates the amount of British capital interested in rubber planting in the Dutch Indies at about £1,750,000.

CONDITIONS IN HAWAII.

A REPORT from Hawaii mentions that not less than \$500,000 has been invested in rubber culture in that territory by five companies and a number of individual planters. It is pointed out that none of the companies are depending upon the sale of shares, but that all of the stock is held by a comparatively few persons and the capital paid in. Locally the progress made to date is regarded most favorably, but with the exception of a few trees here and there there is no rubber under cultivation old enough to have become productive. A recent visitor to THE INDIA RUBBER WORLD offices from Ceylon and Malaya, who is largely interested in rubber planting, having occasion to go



CURING "CASTILLOA" RUBBER AT LA ZACUALPA.

[Plantation in the state of Chiapas, Mexico.]

erated Malay States, in the course of which estimates are made of the possible product of the more recent plantings, based upon the actual results from earlier plantings, and taking into account what is being done in India, this suggestion is made: "If again, five years later, southern Asia is expected to be producing (or capable of producing) 'plantation rubber' equal in quantity in one year to the present consumption of the world, it is surely time now to stop planting any more rubber, until it is seen what effect on prices largely increasing exports from the East from 1911 onwards may produce."

RUBBER INTERPLANTING.

THE first planting of rubber on an extensive scale in Ceylon was in connection with cacao, though afterward much rubber was interplanted with tea. Latterly rubber has been planted on a large scale without connection with any other crop. The *Ceylon Observer* finds, however, that the planting of rubber together with tea or cacao is still continued. The idea has prevailed at times that the tea might eventually be given up when interplanted with rubber, on account of the greater possible profits from the latter, but recently the tea situation has im-

to England, journeyed via Hawaii for the purpose of investigating the rubber situation there. In his opinion every condition in Hawaii is favorable to rubber culture, with the single exception of the labor supply. He felt that so long as the present difference exists between wages in Hawaii and Malaya, rubber culture in the former territory will be at a disadvantage.

YAGUI INDIANS FOR GERMAN PLANTATIONS.

THE Tabasco Land and Development Co. are referred to by *The Mexican Herald* as having contracted with the government of Mexico for the labor of 250 Yaqui Indians for service on their estates in the State of Vera Cruz, including the "Oaxaqueña" rubber plantations. The government is reported to have concluded arrangements lately with managers of several rubber and other plantations for Yaqui laborers. The Yaqui (otherwise Cahita) Indians are found in the southwestern coast of Sonora and the northwestern coast of Sinaloa, in the valleys of the Yaqui and neighboring rivers, and hitherto have given much trouble to the government. If they have now been brought under such control, so to render them capable of being employed on plantations, a very considerable difficulty in respect of the labor supply may have been disposed of.

MEXICAN PLANTATION COMPANIES.

SAN ANTONIO Plantation Co. was incorporated August 12, 1908, under the laws of California; capital authorized, \$100,000. The directors include F. L. Alexander, St. Helena; J. B. Richardson, Oakland; and J. E. Settles, Berkeley, Cal. The company advise THE INDIA RUBBER WORLD of the purchase of land in the State of Vera Cruz, Mexico, in the river Tesechoacan, about 8 miles from Playa Vicente, on which they purpose planting rubber. Roblito Rubber Plantation Co. [see THE INDIA RUBBER WORLD, July 1, 1908—page 326] state that they expect to have approximately 8,000 pounds of rubber to sell next January from the planted and wild *Castilloa* trees on their estate in Chiapas, Mexico.

RETIREMENT OF MR. HART.

WIDESPREAD regret will be felt at this announcement which appears in the July issue of the *Bulletin of Miscellaneous Information* of the Trinidad botanical department: "Owing to the prospective retirement of the editor of this *Bulletin* at an early date, the present number is probably the last that will be issued under his direction. It has been regularly issued from 1887 to 1908." This note is signed by Mr. John Hinchley Hart, F. L. S., who has edited the *Bulletin* from its inception. The articles in the *Bulletin* have been numbered from the beginning, the last being 1908, and they have related to an exceptionally wide range of topics, being mainly original articles by the editor. He has labored in season and out of season for the development of agriculture in the West Indies, with a degree of success which must be very gratifying to himself and to the people among whom he lives. The last annual report of the Royal Botanic Gardens at Trinidad is the twenty-first of the series, and these reports also have been exclusively the work of Mr. Hart. Mr. Hart's connection with the Trinidad botanical department really extended over a period of 32 years and 4 months. He retires, under the regulations of the service, with the maximum pension. It is understood that he has purchased a house within sight of the botanical gardens, and intends to open an office as an expert adviser in tropical agriculture.

THE city of New York owns, for the use of the various municipal departments, 100 automobiles, which are stated to have cost \$260,030. As these machines are in pretty constant use, a current report has it that strict attention is not given to economy in repair bills. The city is a pretty good customer for automobile tires, in addition to buying tires extensively for fire apparatus and other purposes. Recently THE INDIA RUBBER WORLD chronicled the purchase of 26,600 feet of solid rubber tire stock for the fire department from a single factory.

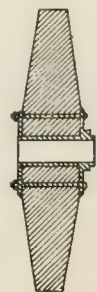
RUBBER INDUSTRY AT SINGAPORE.

THE rubber goods factory at Singapore appears to be one in more than name only. The Nederlandsche Guttapercha Maatschappij (Netherlands Gutta-Percha Co.), formed originally for extracting gutta-percha from leaves under the Ledebour process, has been mentioned already in these columns as having installed plant for the rubber manufacture, and to make tires. In the last INDIA RUBBER WORLD mention was made of their having secured rights from a firm at Akron, Ohio, for making an American tire in the Far East. More recently the news has come of the issue of a British patent to L. A. van Rijn, manager of the Singapore company, for a rubber "tire" which in point of novelty, at least, compares with anything else in recent patent office gazettes.

In an extended article on the works referred to, the *Straits Times*, of Singapore, says that the company have built up an important business in making solid rubber tires for carriages, motor cars, and jinrikishas. The last named vehicle is the type most largely used in the region of which Singapore is the commercial capital, and the *Times* mentions that tires for these vehicles are now largely sought for. It is stated that shipments are made to India, Siam and even the Philippine islands. The Singapore company are referred to as supplying also various kinds of rubber goods, for local railways and for other purposes.

The plant of the Nederlandsche Guttapercha Maatschappij was inaugurated October 1, 1899, and at one time it did a considerable business in the production of gutta-percha from leaves, but for some time work in that field has been suspended. It was reported, recently, however, that the production of gutta-percha had been resumed, and that shipments for London were about to begin. A short time ago subscription books were opened at Amsterdam for the issue of 250,000 florins [= \$100,500] additional capital of the company, in 6 per cent. preferred shares, which was reported at the time to have been taken promptly.

THIS IS MORE THAN A RUBBER TIRE.



Referring to the van Rijn tire, or wheel, mentioned above, the British patent office issues the following abridged specification, in connection with the cut reproduced here: "Disk wheels are made of rubber in one piece, or in several parts vulcanized together, the wheel being thicker at the center than at the periphery. The tread may have nails vulcanized therein; or a tire of leather, wood, metal, and the like may be used; or the tread may be arched inwards or outwards. The rubber disk is attached to the hub by gripping between two flanges being smoothed or roughened."

THE gutta-percha mining fuse used in the United States is still made in Europe for the most part. The domestic manufacture of mining fuse—which, by the way, is on a considerable scale—is confined mainly to the cotton taped quality, the fuse being wrapped spirally with one, two, or three layers of tape, chemically treated for protection against moisture. A correspondent of THE INDIA RUBBER WORLD, who refers to the fuse trade in the United States as being in the hands of a "trust," says the cotton taped fuse nets the domestic manufacturers about 100 per cent. profit.

A PARAGRAPH in the last INDIA RUBBER WORLD mentioned M. P. Fillingham, a consulting and contracting engineer of New York, as having taken on "the manufacture of vulcanizing machinery in general." Of course the "rubber machinery in general" was intended. On another page of this issue occurs an illustration of a new machine brought out by Mr. Fillingham.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED AUGUST 4, 1908.

NO. 894,886. Rod packing. O. J. Garlock, Palmyra, N. Y., assignor to The Garlock Packing Co.

894,000. Coupling for hose and pipe. W. Poltman, Middle town, N. Y.

895,111. Vehicle wheel [with hub surrounded by an inflated tube, and having a solid rubber tire]. N. Schenk, St. Louis.

895,284. Boot or shoe [having a welt sole and an upper of canvas and raw rubber in one piece]. E. S. Mottis and P. J. Mulconney, assignors to Mulconney Co., all of Philadelphia.

895,301. Tire. [Solid rubber, within detachable flange.] A. G. Ritchie, San Jacinto, Cal.

Trade Mark.

34,432. Consolidated Packing and Supply Co., New York. The word *Consolidated*, over the representation of a section of packing, all within a triangle. For piston packings, rubber hose, and belting.

ISSUED AUGUST 11, 1908.

895,437. Tire protector. L. Crise, assignor of one-half to C. F. Close, both of Upper Sandusky, Ohio.

895,476. Golf ball. H. C. Lee, Ridgewood, N. J., assignor, by mesne assignments, to The Kempshall Mfg. Co.

895,561. Vehicle wheel [with pneumatic tire]. J. B. Hembree, Piedmont, S. C.

895,560. Machine for removing the gutta-percha covers from rubber-cored golf balls. E. G. Loomis, Norristown, Pa.

895,738. Solid insulating compound. [Comprises castor oil, gum Kauri, and colophony.] J. W. Frank, assignor to Standard Varnish Works, all of New York city.

895,762. Detachable rim for automobile tires. R. E. Jeffery, Piedmont, Cal.

895,770. Washing apparatus for reclaimed rubber. W. A. Koneman, Milwaukee, Wis.

895,821. Tire armor. G. Wilmet, Jr., Detroit, Mich.

895,838. Automatic pump for tires. J. C. Booth, Columbia, Ohio.

895,984. Pneumatic hub. J. Dunchan, Elizabethport, N. J., and R. Dunchan and J. Dunchan, Vienna, Austria.

896,000. Rubber roll or ring. James Bennett Forsyth, Boston.

Trade Mark.

34,290. Pennsylvania Rubber Co., Jeanette, Pa. The word *Greenleaf*. For rubber hose.

ISSUED AUGUST 18, 1908.

896,075. Rubber-soled shoe. R. T. Badgley, New York city.

896,204. Gasket. J. H. Glauber, Cleveland, Ohio.

896,224. Apparatus for molding, vulcanizing, and finishing rubber boots or shoes. J. W. V. Mason, Manchester, England.

896,362. Resilient wheel. S. S. Childs, Bernardsville, N. J.

896,629. Wheel for vehicles. J. De Vere, Blackburn, and J. Whitehead, Clitheroe, England.

896,661. Tire. [Solid rubber, surrounding a tubular arrangement of strips of metal.] W. Potter, Los Angeles, Cal.

896,662. Rubber dam holder and cutter. A. B. Prentis, Brandon, Oreg.

Trade Mark.

34,281. The Johns-Pratt Co., Hartford, Conn. The Words *J. P. Co.* For electrical insulation.

ISSUED AUGUST 25, 1908.

896,715. Forming of filaments out of viscous or similar viscous material. C. A. Ernst, Landsdowne, Pa., assignor to S. W. Pettit, Philadelphia.

896,728. Tread grip for vehicle tires. C. L. Hoff, York, Pa.

896,850. Puncture-closing device. S. Munday, London, England.

896,894. Cushioned horseshoe. P. Clifford, assignor of one-half to D. J. Corbett, both of Buffalo, N. Y.

896,897. Vehicle wheel. H. Cramer, San Francisco.

896,902. Tire pump. J. A. Dyblie, Joliet, Ill.

896,989. Vulcanizer. J. F. Hardy, assignor to Consolidated Dental Mfg. Co., all of New York City.

897,107. Pneumatic tool. W. H. Keller, Philadelphia, assignor to Chicago Pneumatic Tool Co.

897,151. Pneumatic tire. W. C. Rocheleau and L. T. Rocheleau, Woonsocket, R. I.

897,209. Automobile or vehicle tire. G. Knadler, Cleveland, Ohio.

Trade Mark.

31,502. Stephen Ballord Rubber Co., New York city. The word *Atlas*. For rubber hose, belting, and packing.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1907.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 6, 1908.]

8,651 (1907). Disc wheel for vehicles, made of rubber in one or more pieces. L. A. van Rijn, Singapore.

8,718 (1907). Detachable flange for tire rims. H. Jones and W. E. Evans, Morristown, South Africa.

8,801 (1907). Pneumatic tire. W. E. and J. B. Rowcliffe, Manchester.

*8,857 (1907). Protective extra cover of rubber for pneumatic tires. W. T. Dorgan, Saginaw, Michigan.

8,869 (1907). Seam for waterproof garments. L. Frankenstein and S. Wiener, Victoria Rubber Works, Manchester.

8,870 (1907). Preparation for filling tire inner tubes. I. Frankenburg & Sons, Ltd., I. Frankenburg, and F. H. Betteridge, Greengate Rubber Works, Salford.

8,911 (1907). Rim for pneumatic tires. R. A. C. Esnault-Pelterie, Boulogne-sur-Seine, France.

8,930 (1907). Tire of solid rubber, composed of blocks arranged in staggered order on the wheel. H. Swales, London, and E. W. Sawyer, Bromley.

8,976 (1907). Powdering waste-rubber. T. Gare, New Brighton, Cheshire.

9,094 (1907). India-rubber substitute. A. G. Inrig, Bexley, Kent.

9,129 (1907). Spring wheel with solid rubber tire. A. Kentrick, Tunbridge Wells, Kent.

9,141 (1907). Revolving heel protector. G. Horton, Liverpool.

9,150 (1907). Protective non-skidding cover of metal pieces for tires. S. Hall, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 12, 1908.]

9,199 (1907). Toe box of rubber, for boots. J. H. Brown, Northampton.

9,215 (1907). Leather hands for pneumatic tire treads, with clamps for holding the same. W. Weidling, Magdeburg, Germany.

9,230 (1907). Non-skidding metal plates for pneumatic tires. H. G. Bayley, West Croydon.

9,253 (1907). Tire rim with detachable flanges. R. Beresford, Newcastle-under-Lyme.

9,282 (1907). Ties for securing non-skid studs to tire covers. A. H. Alexander, London.

9,397 (1907). Insulating composition and substitute for hard rubber, composed of asbestos, vegetable fiber, and bitumen and the like, treated with carbon bisulphide and other materials. S. de Pont, Levenshulme.

9,593 (1907). Rim for solid rubber tires. E. B. Killen, London.

9,561 (1907). Elastic tire L. Liais, Paris France.

9,577 (1907). Sectional pneumatic tire, mounted on corresponding rim segments. J. D. Roots, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 19, 1908.]

9,615 (1907). Armored leather tread band for pneumatic tires. H. Niemeyer, Essen a/Ruhr, Germany.

*9,634 (1907). Valve for pneumatic tires included wholly within the tire, the opening to the valve being at the periphery of the tire. J. S. Dunn and S. T. and L. C. Langdon, Vincennes, Indiana.

9,644 (1907). Tool for applying tire covers to the rim. L. Fumi, Ferrara, Italy.

9,655 (1907). Elastic tire. J. Slee, Newton-le-Willows, Lancs.

9,658 (1907). Elastic tire. L. Liais, Paris, France.

*9,686 (1907). Winding machine for winding wire on spools in connection with insulating machine. British Thomson-Houston Co., London. (General Electric Co., Schenectady, N. Y.)

9,727 (1907). Puncture-sealing composition for tires. A. Scott, London.

9,839 (1907). Solid rubber tire. W. B. Hartridge, Seaford, Sussex.

9,908 (1907). Double flanged rim, convertible into a rim of the detachable flange type. J. Hodgson, Carlisle.

9,959 (1907). Side slip prevented by a leather cover provided with oblique metal bands carrying studs. F. Pemberton, Derby.

9,970 (1907). Revolving heel pad. G. Bell, Winton, Lancs.

10,008 (1907). Rubber substitute. M. F. Lugo, administratrix of O. Lugo, London.

10,017 (1907). Filling for elastic tires. A. and D. Fagioli, Southampton.

10,026 (1907). Pneumatic tire having air spaces supplemental to the inner tube. —E. Jones, Llanelly, and another.

10,057 (1907). Pneumatic tire in sections, each fitted to a separate rim section. R. V. Allen, Boston.

10,079 (1907). Tire inner tube in sections; the method of forming the ends is applicable to forming the air tubes in one length. C. G. A. Simmonds, London.

10,090 (1907). Tread for tires composed of over-lapping spring plate. J. Young, Glasgow.

10,130 (1907). Spring wheel with solid rubber tread. C. J. Beugnot and C. Humbert, Paris, France.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 26, 1908.]

10,414 (1907). Rubber packing rim between the felloe and the detachable rim flange of a vehicle rim. E. F. Goodyear, Wolverhampton.

*10,421 (1907). Tire composed of alternate elastic and non-elastic sections, vulcanized within an elastic cover. Eleazer Kampshall, London.

*10,422 (1907). Pneumatic tire with metallic sections to prevent slipping. Eleazer Kampshall, London.

10,424 (1907). Arrangement for carrying spare tires for motor cars on lamp brackets in front. H. Fairbrother, London.

*10,502 (1907). Coupling for railway hose. E. Hannold, St. Louis, Missouri.

10,519 (1907). Tire comprising outer and inner metal bands and intermediate springs, with rubber tread for the whole. J. J. Muller, London.

10,521 (1907). Detachable tire carrying rim. S. Masters, Johannesburg, South Africa.

10,550 (1907). Arrangement of chains to prevent skidding of motor cars. A. L. J. Smith, London.

10,563 (1907). Parts for cow-milking machines. G. Dalén and H. von Celsing, trading as Dalén & Celsing, Stockholm, Sweden.

- 10,564 (1907). Detachable transversely divided tire-carrying rim. P. E. Doolittle, Toronto, Canada.
 10,587 (1907). Hose coupling. G. C. Preston, King's Health, Worcester-shire.
 10,605 (1907). Pneumatic cushion to be used between the bottom and undercarriage of vehicles. J. Byrom, Liverpool.
 10,646 (1907). Elastic tire. V. Crépet, La Demi-Lune (Rhône), France.
 10,699 (1907). Insulating composition of petroleum pitch and kaolin or like clay. T. Marriott, Kingston-on-Thames.

THE FRENCH REPUBLIC.

Patents issued (with dates of application).

- 387,491 (Feb. 22, 1908). V. Drollon. Interchangeable treads for tires.
 387,556 (Feb. 25). A. Muzick. Asbestos-lined tire cover.
 387,572 (Feb. 26). B. C. Swinehart. Rim for elastic tire.
 387,598 (Feb. 26). B. C. Swinehart. Elastic tire.
 387,599 (Feb. 26). B. C. Swinehart. Rim for elastic tire.
 387,712 (March 2). F. Hall. Removable tire rim.
 387,510 (Feb. 28). Fabrique Baloise de Chimiques Products. Process for manufacture of a new synthetic rubber.
 387,652 (Feb. 28). Fabrique Baloise de Produits Chimiques. Process for reclaiming rubber.
 387,514 (Feb. 24). G. Engelhardt. Boot heel.
 387,538 (May 8, 1907). G. E. Bellais. Eraser.
 387,870 (March 6). L. Francois, A. Grellon et Cie. Elastic tire.
 387,875 (March 6). J. A. Harrison and G. Hookam. Protective tire tread.
 387,912 (March 7). Patay et Cie. Artificial caoutchouc.
 387,913 (March 7). E. C. Bergmiller. Protective tire tread.
 388,125 (March 12). Houdaille and Trion. Elastic tire.
 388,131 (March 12). J. Party. Boot heel.
 388,265 (March 17). L. Babert. Pneumatic tire of leather.
 388,248 (March 17). G. Austerweill. Regeneration and devulcanizing of rubber.
 388,302 (March 19). L. Pérard. Boot heel.
 388,387 (March 2). A. C. Mauselon. Pneumatic tire tread.
 388,394 (March 9). G. E. Dret. Rim for pneumatic tire.
 388,428 (March 21). Michelin et Cie. Rim for pneumatic tire.
 388,492 (March 24). F. G. Wiechmann. Treatment of casein to form a rubber substitute.
 388,662 (March 28, 1908). J. Rees. Tire inner tube.
 388,687 (March 30). J. Hoeft. Pneumatic tire without inner tube.
 388,706 (March 30). L. M. Thomas. Leather armored pneumatic tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Robert, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

INDIA-RUBBER INTERESTS IN EUROPE.

GREAT BRITAIN.

AT the last annual meeting of the Leyland and Birmingham Rubber Co., Limited (Leyland, August 15), Mr. James E. Baxter, the chairman, informed the shareholders that the year's trading had been the best in the history of the company. He reviewed the history of rubber prices as affecting the manufacture of rubber goods, but personally he did not anticipate a repetition of the extreme fluctuation in the prices of crude rubber such as they had experienced during the past few years, particularly when they considered the rapid strides which had been made in the planting of cultivated rubber. The price would necessarily settle itself down to a regular one, which would handsomely pay the planter, and which, at the same time, would enable the manufacturer to produce at a fair profit, and also to largely extend his business.

At the last annual meeting of Dermatine Co., Limited (London, August 25), the report to shareholders stated that the business of the company continued to make favorable progress. It was resolved to declare a dividend of 5 per cent. on the ordinary shares, payable on September 14; the preference dividend of 5 per cent. was paid July 4, the total amounting to £1085 8s. 6d. [= \$6,985.49].

The death is reported in London of Mr. Max Hecht, who for a number of years was a partner in Hecht, Levis & Kahn, from which firm he retired ten years ago, after having been an important factor in the trade. He was in his sixty-fourth year.

Equatorial Rubber and Mahogany Concessions, Limited, registered in London April 29, 1908, with £100,000 [= \$486,650] capital, to deal with rubber, gold, and timber in British West Africa. Offices: 31 Lombard street, E. C., London.

RUSSIA.

THE General Electric Co., of Russia, realized during the last business year a net profit of 511,470 rubles [= \$263,407], as against 439,050 rubles for the previous year. Dividend, 4 per cent., against 3 per cent. last year.

GERMANY.

A NEW company has been registered at Berlin, under the style of Prowodnik Motor Pneumatic Gesellschaft m. b. H., for the sale of the tires made by the "Prowodnik" company at Riga, Russia. The capital is 20,000 marks [= \$4,764.20] and Georg Philipp, of Gross Lichterfelde, is manager.

The Continental Caoutchouc-und Guttapercha Co. (Hanover) are reported as subscribers to the extent of 15,000 marks to the fund for the benefit of Count Zeppelin, whose airship met a disastrous end recently.

NON-DECOMPOSABLE CRUDE RUBBER.

THE researches into the properties of crude rubber made during some years past by Mr. George E. Heyl-Dia have yielded some results of much interest from a scientific standpoint and of practical advantage to the industry. Recently, and after a trip to rubber regions in South America, he has announced the successful outcome of a new series of experiments, based upon his observation of the treatment in the forest of *Hevea* rubber. Mr. Heyl-Dia calls attention to the fact that the rubber known commercially as "Cameté" is the product of precisely the same quality of latex as "fine Pará," though these rubbers are quite unlike for factory purposes. The difference, he asserts, is due wholly to the varying treatment received by the latex. Based upon this principle Mr. Heyl-Dia's work has carried him to a point where he contends that, by a certain treatment, any rubbers may be improved, and that Africans and even guayule may be made practically as good as Pará.

Some time before Mr. Heyl-Dia had succeeded in developing, as he asserted, the rubber molecule from balata and turpentine, and later he introduced to the trade a specially treated guayule rubber, of which a considerable amount has been sold. Now, as a further step, he has brought out what he terms "non-decomposable" rubber, the result of treating ordinary crude rubbers. The rubber so treated, as we understand it, is not mixed with other gums or chemicals, except that the preserving process produces at the same time greater strength. The destruction of albuminous matter and proteins removes the cause of deterioration in all rubber goods made from other crude rubbers than fine Pará.



FRUIT OF "PALO AMARILLO."

[A rubber producing tree in Mexico, illustrated and described in THE INDIA RUBBER WORLD, February 1, 1906 (page 148) and October 1, 1907 (page 9). The tree botanically is designated *Euphorbia fulva*.]

THE directors of the Canadian General Electric Co., Limited, declared the regular dividend of 1¾ per cent. on the common shares, and the regular semi-annual dividend of 3½ per cent., both payable on October 1.

New Rubber Factory Appliances.

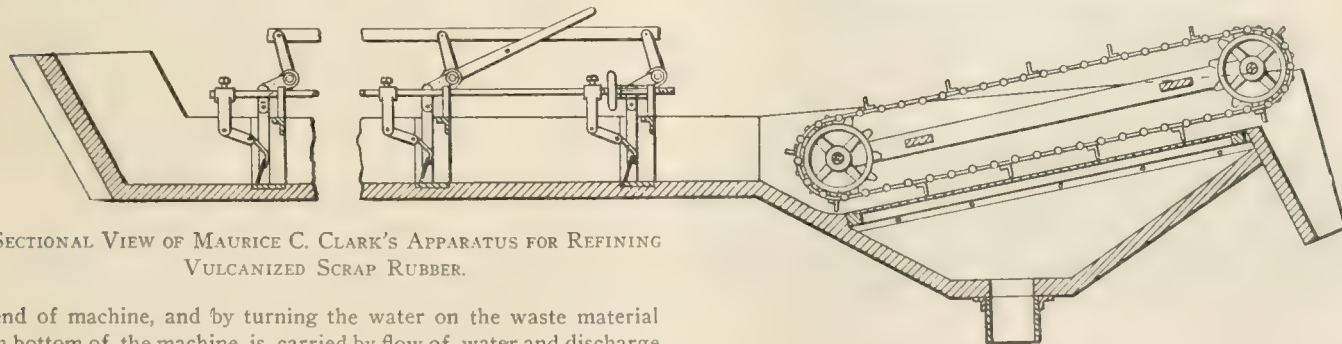
APPARATUS FOR REFINING RUBBER.

A RECENT patent relates to an improvement in mechanism for cleaning and refining vulcanized scrap rubber, such as footwear and tires, which have been ground up preparatory to devulcanizing.

The machine—of which a sectional side elevation is shown in a drawing on this page—consists of a long, narrow trough, having at regular intervals gates or dams. The trough is set at a slight angle and is supplied with water which, together with the ground up stock to be refined, is fed into its upper end, from where it passes through the several compartments and over the successive gates to the lower end of trough, where the stock is delivered over a screen to a devulcanizer car, while the water passes through a screen to the sewer or tank as desired.

While the material is passing over the gates and to the screen the refuse, such as sand, gravel, or particles of metal substances, will settle by gravity into the bottom of the compartment formed by the gates. These gates can be adjusted separately to any angle desired, or can be adjusted all together by means of a hand-wheel on a rod connected to all the gates.

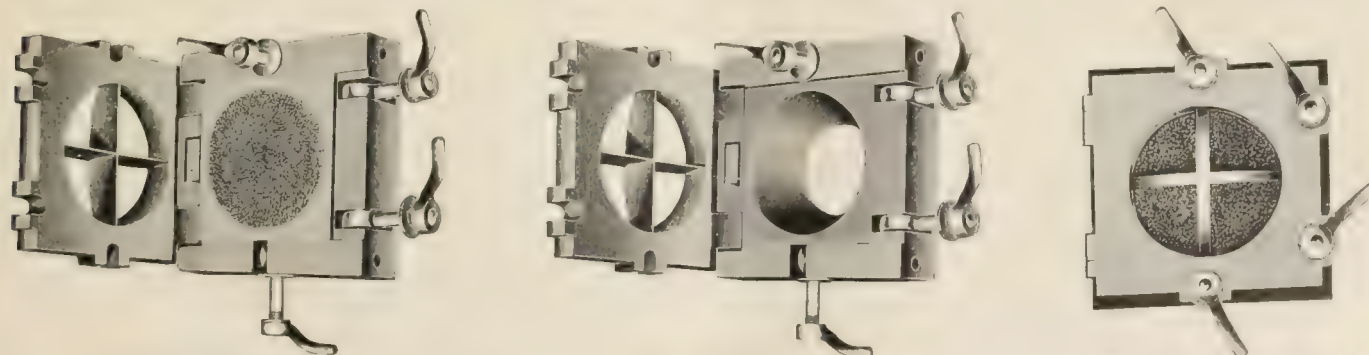
When a batch of stock has been run through the machine and it is desired to remove the refuse material which has settled by specific gravity to the bottom of compartments, the gates can all be raised at once by means of a lever, which, by pressing down, raises all the gates simultaneously up from the bottom of machine; the conveyor and screen are raised up at the discharge



SECTIONAL VIEW OF MAURICE C. CLARK'S APPARATUS FOR REFINING VULCANIZED SCRAP RUBBER.

end of machine, and by turning the water on the waste material in bottom of the machine is carried by flow of water and discharge through the pipe in the bottom of the discharge end of machine. The inventor of this apparatus is Mr. Maurice C. Clark, of Providence, Rhode Island, to whom the rubber industry is indebted already for so many new factory appliances. It is protected by United States patent No. 890,497.

Patent No. 890,498, also issued to Mr. Clark, relates to an apparatus for automatically handling and conveying rubber stock to be reclaimed through the successive operations from cracking up to the devulcanizing car.



[Gate open with plate in.]

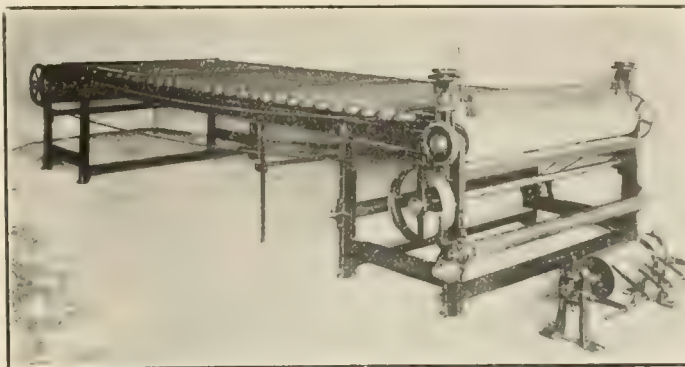
[Gate open with plate out.]

[Gate closed with plate in.]

CLARK'S STRAINER FIXTURE FOR SIEVING SHODDY.

EDRED W. CLARK'S STRAINER FIXTURE.

THREE cuts on this page relate to a new strainer fixture for sieving "shoddy" or reclaimed rubber. This fixture is threaded to screw into the end of the machine same as the head, and by unscrewing the four tail nuts the gate can be opened to change or clean the plate. The plates are steel, 1/2-inch thick, and 3/16-inch holes drilled in a 7-inch circle. In front of this plate is a wire screen 8 1/2 inches square, of any size mesh desired, and as fast as it fills it can be cleaned or replaced. [Edred W. Clark, Hartford, Connecticut.]



A NEW RUBBER SPREADING MACHINE

RUBBER SPREADING MACHINE.

THE new spreading machine shown here is designed for spreading a thin coating of rubber on cloth. The cloth to be coated is wound up on a wooden roll, placed in bearings on the front of the machine, and passed over an accurately ground rubber roll against which the spreading is done.

The spreading knife is mounted in housings at its ends, and is raised or lowered to allow for different thicknesses. Adjustable

end plates are provided to accommodate various widths of cloth. An arrangement is made for spraying the cloth with a number of small jets of steam just back of the spreading knife to prevent the frictional electricity from igniting the naphtha solvent.

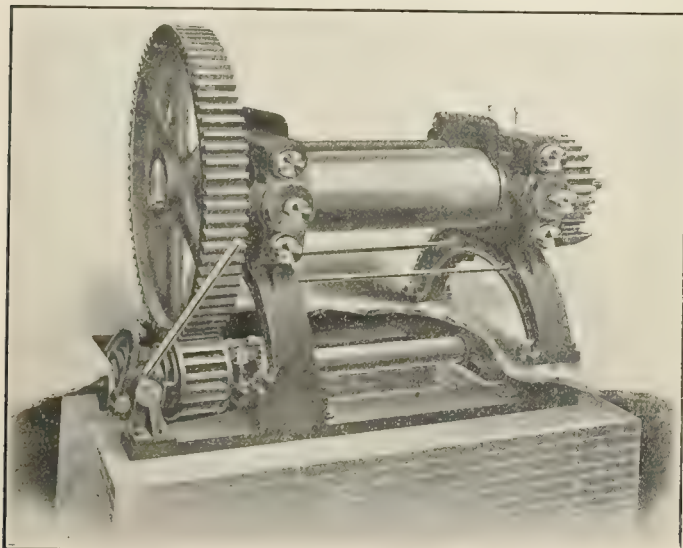
After being coated, the cloth passes over a large surface of steam coils and around a drum at the extreme end of the machine, and is wound up on a roll placed underneath. The machine is of sufficient length to allow the cloth ample time to dry in passing over the steam coils.

A countershaft is furnished having 8"x6" T. & L. pulleys arranged for straight and crossed belts in such a way that the machine may be reversed for running the cloth back.

The T. & L. pulleys should run 175 revolutions per minute. This gives a speed of 20 feet per minute to the cloth. The width of the machine, between housings, is 62 inches. The floor space is 6x17 feet. Net weight, 3,000 pounds. [New England Butt Co., Providence, Rhode Island.]

A NEW RUBBER MIXER.

The rubber grinder and mixer illustrated herewith is built in sizes from 10 inches to 20 inches, diameter of rolls, and of any length desired. It is made with cap on end of frame, as shown



STANDARD RUBBER GRINDER AND MIXER.

[Made for M. P. Fillingham by the Taylor Engineering Co., Allentown, Pennsylvania.]

in the cut, held together with through bolts, or is made with cap on top. The frames and caps are of cast iron of ample strength and weight, the journal boxes are brass lined and fitted with oil pipes, the brass liners reach around under the necks of rolls, so that when the mill is running idle the weight of the rolls are on the liners, making the journal boxes less liable to heat up. The adjusting screws are of steel working in bronze nuts. Each machine is furnished complete as shown on cut, including foundation bolts and plates. If desired these machines can be fitted with safety device. These mills are designed by M. P. Fillingham and built by the Taylor Engineering Co. (Allentown, Pennsylvania).

RUBBER HEELS BAD FOR THIEVES.

AFTER the robbery of a railway station near Toronto the detection of the thief, says the *Toronto Globe*, resulted from comparing the imprints of rubber heels outside the window of the station with those worn by a young man found in the vicinity. Hitherto the wearing of rubber soles and heels has been considered as facilitating the operations of gentlemen of thieving propensities, but if the detectives are going to study trade marks on such goods it may be better for the burglars to

depend on their leather shoes, which make a less definite impress on the soil.

The home of Mark Twain (Samuel L. Clemens), the author, in Fairfield county, Connecticut, was entered one night recently by burglars, whose arrest resulted, as the newspaper reports agree, through their being traced by the imprints in a dusty road of the rubber heels worn by one of them. The local police went over the road and found the prints of a large foot and a smaller one. The big man wore rubber heels "with six little cleat marks." The steps led to a railway station, and the police boarded the same train with two men, an examination of whose shoes led to their arrest for the burglary of Twain's home.

EXHIBITION OF FIRE APPARATUS.

THE rubber trade was well represented at the exhibition of fire apparatus and accessories held in connection with the thirty-sixth annual convention of the International Association of Fire Engineers, at Columbus, Ohio, commencing on August 25—too late for a report in the succeeding issue of this journal. This association is beginning to be more widely recognized, not only as of a most helpful character to the fire department officials in the various cities in affording an opportunity for an interchange of views and experiences, but also for the study of new and improved equipment. The recognition of this latter feature is shown by the fact that during one day of each yearly convention no formal sessions are held, the delegates devoting their time to a series of tests of the apparatus on exhibition. The leading manufacturers of fire hose were fully represented during the week, and also the makers of hose couplings and the like, hose washers, and waterproof clothing. A new feature which has developed at these exhibitions in late years is that of rubber tires for fire apparatus, and several of the rubber companies made displays in this line.

On the opening day of the convention the public presentation of a diamond studded badge of the association was made in behalf of the fire chiefs present to Mr. Isaac B. Markey, of the Eureka Fire Hose Manufacturing Co. (New York), who by his constant attendance upon the meetings of the association from the beginning had become widely known to the members, and a prominent figure at the conventions. Mr. Markey has failed to be present only at one meeting—in 1904—and that was on account of illness.

JAPAN AND THE RUBBER INDUSTRY.

THE Canadian department of trade and commerce publishes a report by the Canadian trade commissioner of Yokohama the effect that a representative of a French syndicate is negotiating to bring the rubber factories in Japan into co-operation with certain large manufacturing concerns in Great Britain and France. The intention is to supply the local markets, and eventually secure the export business to Corea, China, India, Siam, and the Straits Settlements. At present, the commissioner states, there are six companies engaged in the rubber industry in Japan. So far, the quality of rubber goods manufactured by these factories has not been first-class; but, nevertheless, the product is replacing the imported article. The local product has not altogether met with the approval of the public, on account of its weakness and inability to stand wear. One or two of the establishments, however, have made changes in the basis of the material from which their goods are manufactured, charging a considerably increased price, and have placed articles on the market quite equal to the best of the kind that have been imported. —*The Financial News (London)*.

THE B. F. Goodrich Co. (Akron, Ohio) will exhibit their tires at the eleventh annual Paris automobile exhibition, at the Grand Palais, which opens in November.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

A GENERAL tendency is apparent among the rubber manufacturers in Akron to expand their producing facilities. There is hardly a firm in this industry in the city that is not planning extensive building operations. If the program mapped out by each concern is carried to completion, the production of rubber goods in Akron should be increased more than 25 per cent., by a conservative estimate. The sudden expansion is noted, especially among the companies making automobile tires, and it is undoubtedly due to the increased demand for this motor accessory that the building has been brought about.

* * *

THE B. F. Goodrich Co., within the last month, have started on the construction of a new factory building at the front of their plant, which will be six stories high and will measure 102 x 95 feet. It will be used for the automobile tire manufacture exclusively, and is to be completed by the middle of December. Plans are also being drawn for a still larger factory building, to be constructed at the rear of the plant. It will be 220 x 60 feet and six stories high. The rapid increase in the size of the factory building adjoining their present plant on September will be built to the power house, one 50 x 82 feet, and the other 40 x 65 feet. All of these structures are of reinforced concrete and fireproof throughout.

* * *

THE Firestone Tire and Rubber Co., by reason of a recent decision of the stockholders to increase their manufacturing facilities, have begun the construction of an addition to the plant, 125 x 40 feet. The new building will be four stories high and will be used for the manufacture of tires. About 100 more men will be employed. It will enable the company to increase the output by 25 per cent. President H. S. Firestone says it is expected to have the addition ready for occupancy in 60 days. The company are also building an addition to the office, 20 x 50 feet.

* * *

THE Goodyear Tire and Rubber Co. broke ground for a new factory building adjoining their present plant on September 21. It will be five stories high, 80 x 300 feet. The addition was made necessary by the increase of business. It will mean the employment of 300 more men. It is expected to have the building completed by January 1.

* * *

A GENERAL decrease of consumers' prices for automobile tires went into effect among the Akron manufacturers on September 1. This reduction varied from 15 to 25 per cent. among different companies. The step was taken in a measure to overcome the tendency among retail dealers to cut prices. According to the new scale the consumers' listed price is very much lower, while the profit for the dealer is cut down. The manufacturers are enabled to reduce prices for several reasons: First, because the price of crude rubber is lower than formerly; second, because a system of standardization of tires has become almost perfected. A few years ago, the number of sizes a manufacturer had to be ready to make was almost unlimited. Now standard sizes have been adopted by automobile manufacturers, so that the total number is reduced almost to 100. This greatly cheapens and simplifies manufacture; third, facilities of manufacturing have been greatly improved. Not only have new methods been discovered and applied but the increased demand has correspondingly increased the output, reducing the cost of production per piece.

* * *

RUBBER companies in Akron report unexpectedly large sales in the better grade of bicycle tires during the season just closing. This fact is taken as an indication that the bicycle is regaining a measure of its former popularity. In this connection, it is a

piece of news that the bureau of publicity for the sport of bicycling, established in Toledo by the Cycle Parts and Accessories Association, was discontinued on September 1. The reason was the fact that the bicycle manufacturers withdrew their share of the support of the bureau.

* * *

AFTER a year's experimenting with a new type of solid tire with a hard rubber base, the Goodyear Tire and Rubber Co. are preparing to put this product on the market. The Goodyear company claim to be the first rubber company in America to succeed in vulcanizing soft and hard rubber together for this purpose. The new tire is for motor trucks and is designed after a tire in use in Europe for some time. The manufacturers' principal claim for superiority of the new tire is that the hard rubber base will last longer than the ordinary fastening and will enable the user to wear his tire completely out. Mr. P. W. Litchfield, superintendent of the Goodyear factory, is credited with the invention.

* * *

OFFICIALS of the Goodrich and Diamond Rubber companies united in entertaining the delegates of the Society of American Automobile Engineers, who visited the plants of those companies on Saturday, September 19. They spent the morning going through the factories and took lunch at the Portage Country Club. The visit was made at the close of the quarterly meeting held in Cleveland.

* * *

MR. J. A. SWINEHART, of the Swinehart Clincher, Tire & Rubber Co., reports a large business for his company. A night force has been put on at the factory to increase the output. Several pieces of new machinery have also been installed. The New York branch of the Swinehart company was moved recently to No. 875 Seventh avenue, where a building has been leased for ten years.

* * *

THE local manufacturers are preparing to be extensively represented at the annual carriage shows, to be held in New York (October 5-12), and in Chicago (October 12-19). They will take an especial interest in these shows this year on account of the fact that an automobile department will be introduced for the first time. The Diamond Rubber Co. will show tires for high wheeled automobiles, which are growing in popularity, especially in rural communities.

MR. E. P. Weber, has been transferred from the position of salesman in the Philadelphia branch of the Diamond Rubber Co. to the management of the Boston branch to succeed W. P. Cronin, who becomes special salesman of the company, traveling out of the home office.

THE annual conference of branch managers of the Diamond Rubber Co. was held in Akron, on September 14-17. Among those present was C. E. Matthewson, manager of the Pacific coast branch, San Francisco. There were altogether 15 men in the conference. All reported an improvement in business conditions, and trade is active in tires and regular lines.

THE B. F. Goodrich Co. opened a new branch in Kansas City during the latter part of September, at No. 1728 Grand avenue.

THE Diamond Rubber company has coined a new phrase to describe one of their treads—"the well-balanced tire." As described by the company, it is a tire in which the wear is so distributed that the mileage possibilities of the principal parts approach the point where they balance each other. The argument is that the ideal tire should wear so long that before retreading should become necessary, the tie would be past further service through old age alone.

IN the automobile endurance contest held out of Toledo early in September, the Goodyear Tire and Rubber Co. furnished gratis to the contestants the Goodyear air bottles. The drivers at the end of the tour joined in extending a vote of thanks to the company.

THE RUBBER TRADE AT SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

RESULTS that are being obtained by the rubber goods dealers in San Francisco indicate that active times are approaching, if indeed they are not now at hand. The change has been coming on so gradually that it is difficult to say just when the dull times began to wear away, and the more active times are of such recent date that dealers still hesitate somewhat before they will commit themselves to the statement that they are now doing a good business. And yet from nearly all of the local houses comes the report that sales are forthcoming to a degree that is highly encouraging. Almost anyone will say that things are in better shape than they were in July. It had been thought by some that the feeling of quiet times, when it spread to the interior of the State, would have a lasting effect on the country districts, but it seems otherwise. There was but a very short period during which the country merchants perceptibly curtailed their active orders, and at this time there is a greater feeling of prosperity throughout the country districts than locally in San Francisco.

Mr. Crandley, of the Plant Rubber and Supply Co., states that business keeps up to a very fair standard, with a slight tendency to improvement, although he does not look for a greatly improved business until spring.

Mr. W. D. Jennings, representing the H. B. Sherman Manufacturing Co. (Battle Creek, Michigan), was in San Francisco during the latter part of September.

The Bowers Rubber Works, reports the manager, Mr. Chase, are getting ready for next season's business. The factory is running full, all of the travelers are out, and orders are coming in satisfactorily.

Mr. Charles Taber, manager of the new fire apparatus and supply department of the Gorham Rubber Co., states that his department is coming rapidly to the front, doing practically second to the largest business in these lines in this city. There has been a great deal of hose sold here recently, and Mr. Taber is working into this business. Their special hose brands, made for them by the Goodrich people, are coming to the front with the aid of the new department.

Mr. Kirkpatrick, the B. F. Goodrich Co.'s Pacific coast representative, has returned from the convention of tire dealers in the East, and is now at his offices at No. 52 Fremont street.

Mr. Robert Thomson, who was manager for The Fisk Rubber Co. at No. 1036 Golden Gate avenue, is now with the Michel Tire Co. The present manager in San Francisco of the Fisk company is Mr. Maurice Gibson, who was formerly with the Sterling Rubber Co. of this city.

Mr. W. J. Gorham, of the Gorham Rubber Co., returned from his Eastern trip, went up immediately to the firm's Seattle branch, and after a short stay there to see that everything was in good order, returned to San Francisco. Mr. Heckman, the sales-manager of the firm, is still in the East. Mr. Parish, now in Japan, sends the report that business there is very quiet. Mr. Sargeant, manager in San Francisco, states that business has within the last thirty days taken a favorable turn on this coast, and is looking considerably better. The employes of the firm are taking an active interest in athletics, and have a baseball team which is ready to compete with teams formed by any other company.

Following the acquisition by Dodge Brothers, proprietors of the Western Belting and Hose Co., of the "Manhattan" lines formerly controlled by the Pacific Hardware and Steel Co., it is now rumored that the big hardware concern known as Dunham, Carrigan & Hayden are about to give up the "Peerless" lines, and that the Pacific Coast Rubber Co. will take the line. It seems that the hardware houses are gradually losing their rubber lines.

Mr. L. L. Torrey, manager of the Pennsylvania Rubber Co.'s

branch, says: "Business is good and collections are fairly good, and improving. We are, in fact, very busy and expect to be more so. These are facts, too, because conditions are very greatly improved. We have no fault to find with anything in the world."

The cut in the price of tires has caused considerable comment, although on the whole the comment is probably favorable. The cut has been felt by the dealers, but others prophesy that tires will be purchased in sufficient quantities to make up whatever the dealers may lose by the cut in price.

Mr. Perkins, of the Sterling Rubber Co., notes great improvement during the past month, especially in the sundries line. The druggists are now beginning to purchase freely and conditions in that department are near to normal. They are paying up very much better, too, than they did for a while.

Messrs. Kanzee and Ralph, of the Phoenix Rubber Co., have been somewhat slow about getting established in their new store and factory, but they are having everything put into ship-shape condition so that there will be no loose ends to pick up after they have become settled.

Mr. Joseph Selby, representative of the Boston Woven Hose and Rubber Co., now in the interior on one of his regular trips, sends in reports which indicate that the country districts are in almost normal condition again.

A WEED EATING TROPICAL CREEPER.

[FROM THE WESTMINSTER GAZETTE, LONDON.]

IT appears that at last an antidote has been found to the noxious weeds which are so frequently the death of certain forms of plant and vegetable life in the East. Specimens of this wonderful "find" have been forwarded to the authorities at Kew Gardens. This plant is a blue flowering creeper botanically known as the *Commelina nudiflora linnea*, but called "rumpit gremah" by the natives of Malayasia and "ge-war-en" by the Javanese. Although the report made at Kew goes to show that this creeper is common throughout the Middle East, it would seem that the managers of estates and plantations have not known of its peculiarly welcome properties until very recently and accidentally.

The prolific weed known as "alang" is the great enemy to rubber growth. It was the accident of observing that where the blue flowered creeper came in contact with the alang the latter became much less injurious that induced a planter to send specimens to Kew. It seems that at first one begins to notice that the weeds are becoming less prolific where the creeper is growing among them. This improvement steadily increases as times goes on and it has been found that under the influence of this antidote alang which was formerly four or five feet in height has been reduced to only one or two feet when it starts to flower.

But the joyful discovery having been made that here was an undoubted setback to the weedy growth that chokes young rubber and is the bane of the planter's life, the question arose: Would the antidote itself exercise a prejudicial effect on the rubber? Therefore the specimens were duly submitted to Kew, and, as stated to our representative, the new creeper is "unlikely to have any harmful effect on young rubber trees." Planters all over the East may therefore take heart of grace and also take this new "medicine."

In appearance the blue flowered *Commelina nudiflora* is rather pretty, and like the weeds which it first checks and then kills it grows with astonishing rapidity. The particular estate whose manager made the discovery and acted upon it so promptly and satisfactorily is the Langkon estate, in British North Borneo. The amount of rubber produced annually in the Straits Settlements is, of course, very large, and the results of the discovery and its successful application in a practical way are likely to be far reaching.

THE PROPERTIES OF "VULCOLE."

AN article headed "Vulcole" in the last INDIA RUBBER WORLD related to a new assistant for rubber compounds that had recently come upon the market. The company having its sale in charge wrote under date of September 25:

"At this writing some 40 rubber manufacturers, and among them the largest and most representative in the United States and Canada, have ordered 'Vulcole,' and are now engaged in experimenting with it. Besides those ordering we have had letters from some 70 more asking for further information, and believing that as many more as have written are interested, we take the liberty of writing you covering all of the questions we have received.

"'Vulcole' is a paste about the consistency of ice-cream and in the A and B grades a cream white in color, C grade being jet black. A grade is made for all classes of rubber goods, black, red, white or blue that the manufacturers want to bloom. B grade will absolutely prevent blooming and is suitable for all compounds and cures where non-blooming results are desired. C grade is put up exclusively for rubber boot and shoe work. It will not only absolutely prevent blooming in rubber boot-legs, but is possible to obtain a rubber with a jet black, gun-metal finish, a finish we believe will be in great demand for rubbers worn in large cities where the fashionable trade object to wearing rubbers that look when new as if the wearer had just left the varnish shop.

"In the majority of compounds from 3 to 5 per cent. of sulphur is at present used, but with 'Vulcole' it is possible to increase this amount to 75 per cent. of the weight of the crude rubber, which increases the sulphur percentage 1600 to 5000 times.

"The majority of letters ask what is the special advantage of using sulphur as a compounding ingredient. In answer to this we would say that in considering the value of a rubber compound its price, together with quality and bulk, must be taken into account. We have seen compounds costing 75 cents a pound that are really cheaper than ones costing but 50 cents a pound, for the reason that from a pound of the one costing 75 cents, so many more articles of the same size could be made out of a pound of stock that each article costs less than when made out of the 50 cent compound.

"Sulphur is the lightest of the mineral pigments generally used by a rubber manufacturer, its gravity being 2. It is also low in price and does not affect the elasticity when mixed in a compound together with 'Vulcole.' It does not affect the strength as would a substitute, to say nothing of the great saving in the cost in favor of the former. Samples which we have that were made 7 months ago show no oxidation.

"Contrary to what might be expected from using so large a percentage of sulphur, equaling 75 per cent. of the weight of the crude rubber and but one ounce of 'Vulcole A' to a pound of the former, it does not bloom excessively. 'Vulcole,' in enabling so large a percentage of sulphur to be compounded into the goods, greatly reduces the time necessary to vulcanize, increasing two or threefold the output of a specific number of presses and molds, to say nothing of the saving in cost of labor on the press. We have cured without soap or soapstone the most delicate mold work.

"We would impress the fact that by the aid of 'Vulcole' it is possible to make up a compound containing a fair proportion of crude rubber, adding all of the mineral pigments that are usually used, besides from 25 to 75 per cent. of the weight of the raw rubber in sulphur without affecting the quality of the finished product, to say nothing that the sulphur will lighten the gravity, and increase the bulk of the compound.

"While the initial cost of 'Vulcole' is approximately 7 cents an ounce, the saving it effects will enable a manufacturer who uses it to cheapen the cost of the compound without reducing

the quality. It actually effects a saving of from 15 to 33⅓ per cent., according to the percentage of sulphur used, to say nothing of the fact that it absolutely prevents blooming, increases two and threefold the output and saves altogether the time lost in cleaning and scraping the molds between heats."

TESTING THE HEART WITH RUBBER.

THE sphygmomanometer is a pulse pressure gauge, used by physicians for measuring the pressure of blood in the arteries, in the treatment of circulatory disturbances or heart disease. Writing on its use, in the *New York American*, Dr. Samuel G. Tracy, of New York, says:

"An artery of the body can be compared with a flexible rubber tube used for a drop light and filled with illuminating gas. If the tube is slightly damaged or obstructed, an overpressure of gas may produce a fissure in the inner wall of the tube, or the tube may burst. However, if one moderates the gas pressure, then the tube holds good. So in the human arteries there is danger from excessive pressure.

"In testing the pulse at the wrist, experienced physicians become familiar with the feeling of the quality of the artery, and



THE SPHYGMOMANOMETER IN USE
[Measuring a patient's arterial tension.]

can often tell if this artery has become hardened and its caliber correspondingly smaller. To make sure, however, the sphygmomanometer makes the test certain.

"This instrument consists of a cut-glass bulb and upright tube containing mercury. One side of the glass bulb is connected with a rubber tube ending in a rubber hand bulb. The other side is connected with an inflatable rubber band or tire, which, attached to the arm over the radial artery, when the hand bulb is compressed, drives the mercury up in the glass tube.

"If the column of mercury indicates 114 to 125 millimeters in the female adult and 125 to 135 in the male adult, a normal blood pressure obtains. If lower than this the vital energy must be improved, which is quite easy to do. If, on the other hand, the column of mercury indicates increased pressure, then arterio sclerosis, with hardening of the arteries, is probably present, and your condition demands the advice of a physician."

As will be seen from the illustration (which appears here through the courtesy of the *New York American*), this important device owes much to rubber, which forms such a considerable part of it.

STATE OF THE TIRE TRADE.

THE new prices for automobile tires announced September 1 show a material reduction in the cost to consumers. These reductions range from 25 to 40 per cent., the large figure referring as a rule to the lighter tires, the smallest reductions being on the middle weight tires—the kind used on the ordinary four cylinder touring cars and runabouts. There being no trade combination among the tire makers there are, of course, offered in the various catalogues varieties in price and in reductions. Some have cut a trifle more on one line than upon others, but the general ratio is substantially fixed. It will average 33 per cent., considering all makers and all sizes. The same is true with regard to casings and inner tubes. The reductions on each are about the same ratio.

The primary reason for this marked change in the cost of tires, according to manufacturers, is the lower price of rubber. The reduction in the cost of tires has not more than kept pace with the reduction in rubber. There are other reasons, however, which contribute to the lowering of the price scale. The manufacture of automobile tires is not so old, but that constant improvements are being made in machinery and in factory methods. Every year adds something in the way of machinery that cheapens and improves the product, and every year's experience adds to the store of knowledge and to the proficiency of the operatives. Then again, the growth of the industry, the new manufacturers in the field and the sharpness of competition are all tending to narrow the margin between the factory and the consumer. The demand is now so steady and so strong that it costs less to sell a tire than ever before; just as it costs less to make a tire than ever before. The consumer is sharing these benefits with the maker.

The constant improvement in the quality of the American tire has brought its reward in the increased confidence of the automobile enthusiasts. Not so very long ago, many of those to whom expense was no consideration, were persistent users of foreign tires, because they believed them superior to anything made in America. This sentiment is rapidly changing. The American product is generally regarded as being as serviceable in every respect as any tires made abroad. Many automobilists prefer it. The growth of this sentiment has added to the business and will add more every year. In almost every case the user of foreign tires who is induced to try the home-made article becomes a convert.

The volume of business, in terms of money, is increased by the steady change that has come over the character of the demand. The automobile business and tire business being practically in their infancy it has required a considerable amount of experimenting and considerable elimination to bring them to standard. Not so very long ago a count of the automobiles that passed you in or near New York would have disclosed the fact that fully 50 per cent. of them were machines weighing less than 1500 pounds. These as a rule used very light tires on 28 inch or even smaller wheels. A similar observation today would not show one car in ten as light as 1500 pounds, and more than 50 per cent. would range between 2200 and 3500 pounds. The wheel diameters are from 32 inches up and the tire diameters from 4 to 5½ inches. The difference in the amount of money spent for tires is enormous. Furthermore, even on the same weight cars there is a rapidly developing tendency to increase the weight of the tire. Automobilists see more and more clearly that there is no economy in cheap tires. Not only the pleasure of the sport but the lives of those who ride make dependable tires a necessity.

The tendency, therefore, for the coming season is to have a car "over tired" rather than to run the risk of annoying breakdowns and dangerous accidents. Owners of cars of from 2200 to 3,000 pounds, who formerly thought 3½ inch tires ample for

every requirement are now buying 4 and 5 inch diameters. The buyer of a new car always insists on the heaviest possible tire; the sellers of cars have recognized this demand in offering their wares and in preparing their catalogues. This increase in demand for the 4 and 4½ inch tires is the chief reason why its ratio of price reduction is less than on either smaller or larger sizes. In these sizes the factories have their hands full supplying the demand.

All of the makers now offer a variety of treads, and few motorists use the tire of circular section, as formerly. This is true with regard to the driving wheels especially. On these the general usage is some variety of non-skid or non-slip tread that adds thickness and weight to the tire and adds to its cost. All varieties of these special treads are higher priced than the plain tread, and their many varieties make good selling arguments. In this line, however, there are few novelties offered for the season. The forms that have been approved in the past have practically become standard, and are turned out with slight variations by all the factories. Their popularity grows as automobilists become more experienced and they undoubtedly add to safety and to durability.

"ARTIFICIAL RUBBER."

[FROM THE LONDON "MORNING LEADER," SEPTEMBER 11.]

THERE is no panic in the india-rubber trade on account of the alleged synthetical manufacture of rubber at Burton-on-Trent [mentioned on page 16 of this issue]—there have been too many of such reports before. Mr. Henry C. Pearson, editor of THE INDIA RUBBER WORLD, New York, told a representative that he had known twenty or thirty such inventions during the past few years, and still the trade was unaffected.

Mr. Pearson was at Olympia surveying the preparations for the forthcoming International Rubber and Allied Trades Exhibition, for which he has especially crossed the water, and at which he will give a series of lectures, including one on synthetic rubbers.

The inventor, said Mr. Pearson, has to compete with nature—which is supplying rubber about as economically as it can be done. In order to beat her he would have to have an extraordinary cheap base—sawdust, say, or mud. But the demand for rubber is so great that it will be sure to keep pace with any supply.

Asked for an average cost price of rubber, he said it could be produced at 14 cents a pound, and would be sold at a dollar. He agreed that that showed a very handsome margin, but contended that the planters in Ceylon and the Malay Peninsula deserved it for their pluck.

NEW TRADE PUBLICATIONS.

WHAT we have to deal with here may not be a trade publication, strictly speaking, but it serves none the less as a trade catalogue. It is a sample book of Rubber Balloon Fabric, sent out by the CONTINENTAL CAOUTCHOUC UND GUTTAPERCHACOMPAGNIE (Hanover, Germany). Twenty-five samples are shown, a fact which alone illustrates the importance which has been attained already by the new aeronautical interest as a field for the output of the rubber industry—a subject to which, by the way, several pages are devoted in this issue of THE INDIA RUBBER WORLD. [9¾" x 5¾".]

BELDEN MANUFACTURING Co. (Chicago) issue their Catalogue No. 4 of Electrical Wires, Cables and Cordage. They illustrate a very full line, including rubber insulated wires, and the catalogue contains in addition not a little technical matter relating to wire capacity and the like, arranged conveniently for reference. [4" x 8¾". 123 pages.] A discount list accompanies the above.

INTERNATIONAL RUBBER AND ALLIED TRADES EXHIBITION.

THE first International Rubber and Allied Trades' Exhibition, 1908, held at Olympia, London's largest exhibition building, during the two weeks closing Saturday, September 26, justified all the expectations entertained by its promoters and the representatives of the various branches of the rubber interest who contributed to its success. The attention which the London newspapers, and the British press generally, gave to the enterprise testified to the widespread interest in rubber which exists in the mind of the British public to-day. *The Times* came out on the morning of the opening day with an advance notice of the show, resulting from the "press view" of the Saturday afternoon previous, filling space equal to three or four columns of an American newspaper, and in which not one important feature was overlooked, and all treated in a style which would have done justice to a technical writer on rubber. The other general newspapers, in the metropolis and in the provinces, followed suit; the financial press gave special attention; and scarcely any other class of papers—scientific, sporting, or what not—failed to mention the rubber show.

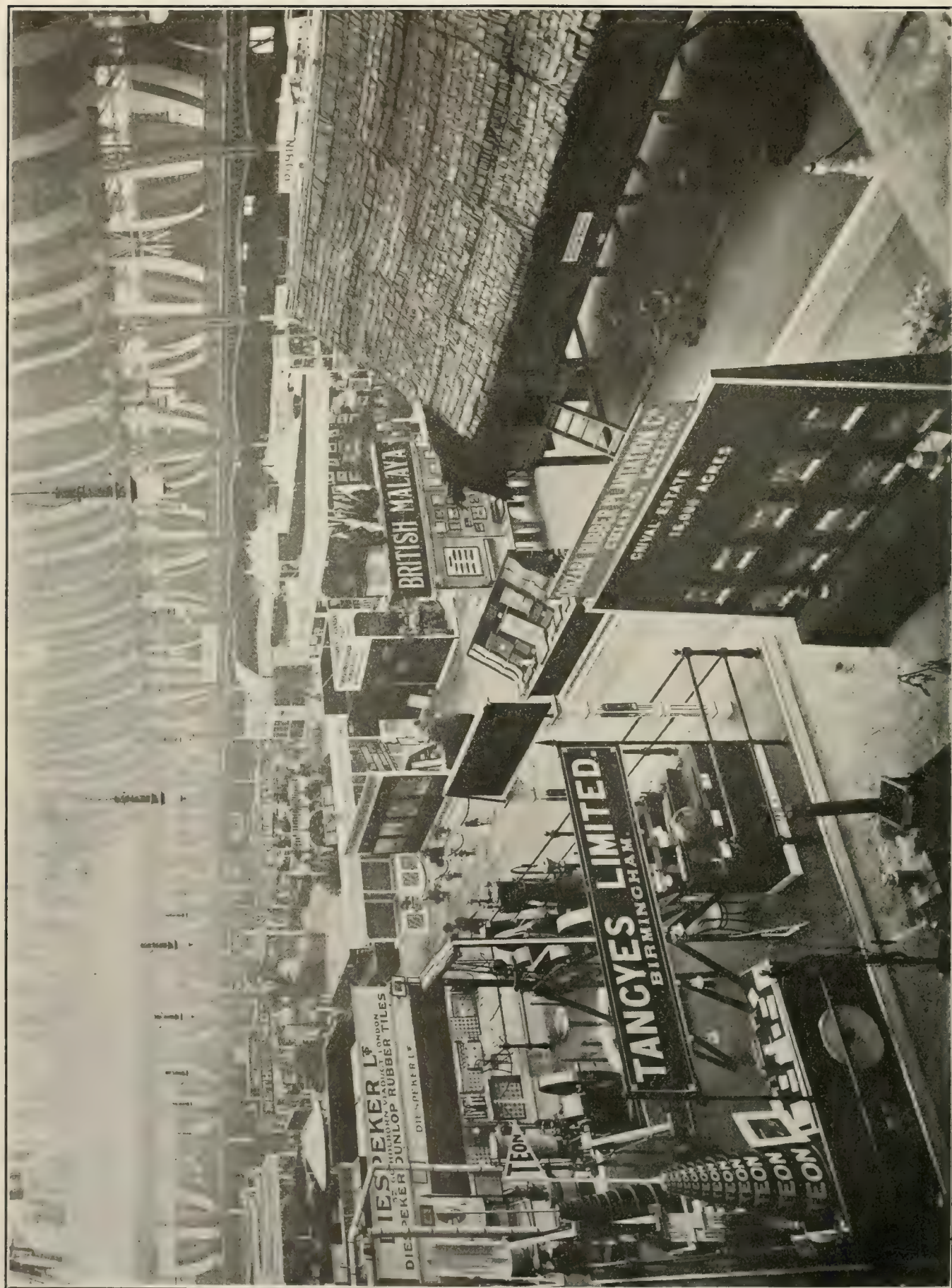
As has been indicated, not a few British investors have been gaining large dividends from rubber shares, and countless others are hoping to do as well when the younger plantations have matured. But there were other reasons for the success of the Rubber Exhibition—it was interesting, to begin with; it was well conducted, and it was brought to the notice of the public in an intelligent manner. Never, perhaps, was an exposition so

thoroughly international in character, and on so large a scale, organized with so little direct government aid in any quarter. The whole work was done within a few months, and some how the result worked out without a deficit. It is understood that the total cost of the Exhibition was covered long in advance by the sale of space in Olympia, without the guarantors being asked for a penny. It was not a gate money exhibition, but largely an invitation one, with over 150,000 tickets issued. Where gate money was offered, however, it was not declined.

To get to Olympia, the great hall in which the International Rubber Exhibition was held, one must first go to London, and after locating in some convenient hotel, probably in the "city," it is easy to reach the show building by "tuppenny tube" (the underground railway), by horse or motor 'bus, hansom, or taxicab. The latter is rather preferable, as the rates are exceeding low and the speed correspondingly high. The interior of the great Olympia building, gay with bunting and flags of all nations, filled with tropical exhibits as well as with the machinery necessary for the production of crude rubber, was an aggregation worthy the interest of any one whether in the trade or not. Perhaps no other industry in the world could have brought together men from such diverse and distant parts of the earth. One rubbed elbows with government officials from Europe, Asia, Africa and the Americas; with planters from Ceylon, Federated Malay States, Java, Sumatra, Mexico, Hawaii, and indeed from the whole planting world;



FRONT VIEW OF THE BUILDING WHERE THE LONDON RUBBER EXHIBITION WAS HELD.



INTERNATIONAL RUBBER EXHIBITION AT THE OLYMPIA—MALAYSIAN AND NETHERLANDS SECTIONS.

eminent botanists meet practical rubber manufacturers. Rubber factory chemists chat with successful planters; rubber importers, rubber machinery manufacturers, rubber chemical manufacturers, and rubber editors shake hands and exchange views. Every now and then in various parts of the great exhibition hall appeared the genial, energetic, organizing manager, Mr. A. Staines Manders, or the friendly, courtly Colonel Bosworth, active chairman of all committees—introducing, suggesting, and smoothing away difficulties with a deftness almost magical. The manufacturing and planting world, English and Continental, took the Exhibition very seriously, and were deeply interested therein. In keeping with this was the general tone of the Press, which devoted pages to descriptions of exhibits and interviews with distinguished visitors. In keeping also with this dignity were the engraved cards of invitation, sent out by Sir Henry A. Blake, G. C. M. G., president of the Exhibition, bidding those interested to the opening ceremony on the afternoon of Monday, September 14. Equally elegant were the cards sent by the same distinguished gentleman to the great newspapers, whose representatives enjoyed a private view of the exhibition on Saturday afternoon, the 12th, followed by a press banquet in the evening.



A. STAINES MANDERS.

[Organizing manager of the International Rubber and Allied Trades Exhibition at Olympia.]



SIR HENRY ARTHUR BLAKE, G. C. M. G.

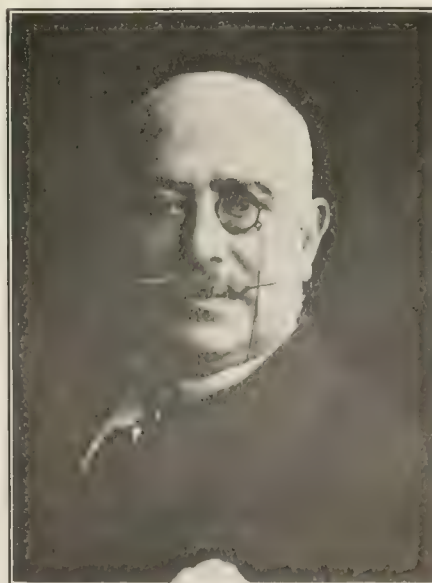
[President of the International Rubber Exhibition.]

Exhibition during the afternoon. The Chairman (Sir Arthur Blake) said:

"On behalf of the Committee I welcome here most heartily the representatives of the European and American Press who have done us the honor of attending the Exhibition.

"And now, gentlemen, may I say a few words about the Exhibition, which you have been examining to-day, and of which your judgment will fly to the uttermost parts of the earth? You will have observed that this is not merely an Exhibition to attract a gaping crowd, but is in fact a Congress of all who are interested in the growing and manufacture of rubber, and as the first International Rubber Exhibition held in Europe will mark an era in the history of what will one day be among the greatest commercial interests in the world.

"When I remind you that 30 countries have sent exhibits and no less than 18 governments have sent representatives, you will



COLONEL W. J. BOSWORTH.

[Chairman of the Executive Committee of the International Rubber Exhibition.]

The exhibits were for the most part on the one floor of the main exhibition hall, so disposed that none could obstruct the general view, though several extensive collective exhibits were mounted in a most attractive manner—as those from Ceylon, British Malaya, the Netherlands and Amazonas. Grouped about the main hall were large and small rooms, for the use of the officers and committees of the Rubber Exhibition, planters' and other associations, commissions from various governments, and for meetings and conferences in general. The Welcome Club, for private season ticket holders, newspaper men and exhibitors (principals only), tended to promote the social side of the Exhibition, and there were, besides, dining, refreshment, and tea rooms in the building.

THE DINNER TO THE PRESS.

The dinner to the Press on Saturday evening preceding the show, in Pillar Hall, Olympia, under the presidency of Sir Henry Arthur Blake, G.C.M.G., was attended by representatives of more than 40 journals, besides distinguished visitors from abroad. The guests of the evening had attended the Private View of the

realize the importance attached to it. Here the investor, the planter and the manufacturer meet face to face, and every process of production and manufacture will be discussed at the meetings to be held during the Exhibition. Germany has given us a chemist wizard in Dr. Fritz Frank, who will give practical demonstrations in his laboratory, whilst Mr. Pearson, of THE INDIA RUBBER WORLD, will enable us to see the practical work on the spot of the rubber section of the pioneers of commerce, whilst the splendid exhibits of the Silvertown company, Messrs. Dunlop, and others, will show what has been and is being accomplished. It is a mere platitude to say that the utilization of rubber is only in its infancy, and yet the first use of it on record goes back into the dim mists of tradition. For in the Indian epic of Ramayana, written more than 2000 years ago, Rama is mentioned as living in the woods for fourteen years, during which time he used the bark of a tree for clothing, whilst the hair wash that matted his hair was the juice of the banzan, now known to rubber growers as the *Ficus elastica*.

"I look forward to the time when rubber will compete with the quarry, and I have the authority of a well known manufacturer for saying that at 2 shillings per pound rubber can be economically

ters making such valuable and practical suggestions as would be expected from a man of such ripe wisdom and judgment. I know that our organizing manager, Mr. Stanes Manders, notwithstanding his vast experience in organizations of this kind, gladly and thankfully acknowledges the debt he owes to Sir Henry's acumen. Our President has taken infinite pains to make a success of this Exhibition because he is deeply interested in the welfare of this great industry whose prosperity we are all endeavoring to promote. I am sure that members of the committee, gentlemen who will take part in the conferences, rubber growers and manufacturers—British and foreign, as well as exhibitors generally—will find it an abiding source of gratification to remember that they have served under a President revered by countless people over whose destinies he has exercised control; loved by all with whom he comes in contact, and respected throughout the wide world.

"Gentlemen, I ask you to join me in pledging Sir Henry Blake. Let us with all our hearts wish him happiness and prosperity, with length of days so that he may, for very many years to come, continue to benefit his country and his fellow creatures by pursuing the objects of his useful life."



H. KERR RUTHERFORD.

[Chairman of the Rubber Growers' Association (London), and of important rubber and tea planting companies; a vice-president of the Rubber Exhibition.]



ERNEST E. BUCKLETON.

[Convener of the Rubber Manufacturers' Conference held in connection with the Exhibition.]

used for street pavements. I think that those interested in rubber owe a debt of gratitude to Colonel Bosworth, the chairman, and especially to the organizing secretary, Mr. Stanes Manders, for the untiring and capable energy that has brought the Exhibition to so successful an issue.

"To the gentlemen who represent the Press to-night I again offer a warm and hearty welcome and with an invitation to Messrs. [the names of several speakers were given] to respond, I ask all present to raise their glasses with me to the continuance of all that is good in that great world power, the Press."

The health of Sir Henry A. Blake, G.C.M.G., president of the Rubber Exhibition, was proposed by Colonel W. J. Bosworth, chairman of the executive committee, in the following words:

"I have now the honor to propose a toast which I feel sure you will receive with unbounded enthusiasm, and that is the health of our President, Sir Henry Blake. It would have been no slight advantage to this Exhibition if so conspicuous a statesman and empire-maker had merely permitted us to use his name as an indication of his approval of the enterprise, but you will, I am sure, readily understand how greatly we are indebted to him when I tell you that no detail has been too small for him to examine and criticize, and that we have continually received let-

The speakers were chosen by alphabetical arrangement of the countries represented, America coming first and represented by the Editor of THE INDIA RUBBER WORLD, who sat at the right of the Chair. The other speakers were Monsieur E. Thiroux, of *La Caoutchouc et la Gutta-percha*; Herr K. W. Wolf-Czapek, of *Gummi-Zeitung*; Dr. W. F. Schimmell, of *Sourabaya Courant* (Java); Mr. G. C. Bellairs, of the *London Times*; Colonel W. J. Bosworth and Mr. A. S. Manders.

Others present and not already named were Senhor N. H. Witt, commissinoer from Manãos; Senhor H. Vasconcellos, commissioner for Brazil; Heer H. S. J. Maas, consul for the Netherlands; Mr. R. Derry, commissioner from Malaya; Dr. Rudolf Ditmar, rubber-chemical school in Gratz, Austria; Dr. Tromp de Haas, director of the government gutta-percha estate in Java; Dr. A. G. N. Swart, president of the Netherlands committee; Dr. D. Sandmaun, of the royal Prussian commercial court; Dr. Theodore E. Smith, *India Rubber Review*; Mr. M. Kelway Bamber, representing the Ceylon government.

The Official Catalogue of the Exhibition was a most excellent piece of work, embracing not only an informing description of a vast number of exhibits, but admirable introductions and treatises, and portraits of prominent persons.

Opening of the Rubber Exhibition.

THE official opening of the Rubber Exhibition occurred at 2:30 P. M. on September 14. At that hour Sir Henry A. Blake, G.C.M.G., was received by the reception committee and proceeded to the dias. There he was invited by the chairman of the committee to declare the Exhibition open and to start the machinery. After the President, accompanied by the reception committee, made a tour of the building and inspected the exhibits. While this continued the band played the national anthems of the several countries taking part in the Exhibition, concluding with the British.

In declaring the Exhibition open the President said:

"COLONEL BOSWORTH AND MEMBERS OF THE EXHIBITION COMMITTEE: I appreciate deeply the honor that you have done me by inviting me as your President to open this unique and important exhibition, illustrating as it does every phase of the great india-rubber trade from the germination of the seed to the ultimate uses in some of the thousands of channels through which manufactured india-rubber ministers to the wants of modern society.

"But first I must congratulate you, and especially your organizing manager, Mr. Staines Manders, upon the energy and ability that have produced the satisfactory results that we see around us.

"When we remember that every portion of the tropical regions in which the rubber producing plants grow, including Asia and the great islands of the southern seas; Africa, Central and South America, and the West India islands has sent its contribution, that 30 rubber growing countries are contributing, and that no less than 18 governments have sent their representatives in charge of their exhibits, you will realize how great is the im-

portance attached to this first International Rubber Exhibition held in Europe; and on your behalf I welcome our foreign friends who have joined us in this movement for mutual instruction and advancement in the many problems connected with the production of raw rubber that still remain unsolved, as also those who have sent here their beautiful and delicate machines—that you will presently see start into life, and the manufacturers who have exhibited some splendid specimens of finished products.

"The Exhibition marks an era in the history of rubber—a product that during the past half century has played a greater part than any other substance in expediting human progress, for without it no cables could have been laid between far distant continents to give the means of that instantaneous communication that make for peace and friendship and commerce.

"This is no mere exhibition in the ordinary sense; it is rather a great International Congress of all classes who are interested in what is now a rapidly expanding trade and what will one day be among the largest fields for sound investment in the world. But 30 years ago the rubber then used was produced almost exclusively from the far interior of the forests of Brazil, and you will see in the fine exhibit sent by the Brazilian government the form in which the rubber was produced, and the reproduction of the primitive but effective process of its preparation for the market. To-day, thanks to the Royal Botanic Department at Kew which distributed the seeds to Ceylon and India, the plantation of rubber has increased so rapidly, especially within the last decade, that it is computed that between Ceylon, Malaya and other Eastern countries there is now an area of over 500,000



FIRST SESSION OF THE INTERNATIONAL RUBBER CONFERENCE.

acres planted with rubber from which the bulk of the plantation rubber exhibited here to-day has come, while the Netherlands government sends balata from Dutch Guiana, and smaller but no less interesting exhibits are sent from Jamaica, British Guiana, Trinidad, Dominica and S. Lucia.

"Here it is proposed to hold meetings during the Exhibition at which demonstrations will be given, papers will be read by experts and discussions will take place upon them, and investor, planter, chemist, mechanical engineer, broker and manufacturer will have an opportunity of coming together and considering the business in every aspect; in fact, for the time Olympia will be a technical college working at high pressure and equipped as no technical college has ever been before.

"I desire to acknowledge the liberality with which Messrs. Gow, Wilson & Stanton, Limited, of Rood lane, have offered a valuable

cup as a special award for most economical and complete process for preparing Pará rubber from the latex.

"It is almost to a day just two years ago when, on September 13, 1906, I opened the first Rubber Exhibition in Ceylon, in the beautiful Botanic Gardens at Peradeniya, with a similar arrangement for the reading of papers and discussions. It was then suggested that it would be well if in two years another Exhibition should be held in the East and progress noted. I little thought then that it would be my good fortune within that time to open another Rubber Exhibition. You will therefore understand with what pleasure I find myself connected as President with one of far greater scope, in the very heart of the commercial world, which, with every good wish for the success of its mission, I now declare open."

The machinery in place was then set in motion.

What Was Seen at the Show.

CEYLON.

THE Ceylon section was extensive and its displays bearing upon rubber production interesting and informing. The success of the Ceylon Rubber Exhibition of 1906 led visitors to Olympia to expect something notable in this section, and in this they were not disappointed. There were collective exhibits from Ceylon districts, sometimes through the efforts of the local planting associations, and there were exhibits by single estates or individuals. A number of items were sent by the Royal Botanic Gardens. The work of the joint committee of the Planters' Association of Ceylon and the Chamber of Commerce at Colombo also contributed to the display, as did Mr. M. Kelway Bamber, the government representative for Ceylon. Altogether the following 39 rubber plantations are named in the official list as being represented collectively or individually:

Aberdeen	Duckwari	Mahawala	Suduganga
Ambangonga	Gikiyanakande	Nakiadeniya	Syston
Arapolakande	Grand Central	Nikakotua	Udapolla
Ballacadda	Halwatura	P. P. K.	Vogan
Bandarapola	Hanwella	Pallekelly	Vogan Tea Co.
Culloden	Hapugastenne	Pantiya	Waharaka
Dangan	Katugastota	Perth	Walpola
Deaella	Kepitigalla	Plate & Co.	Wariapolla
Devitura	Kondesalle	Polatagama	We Oya
Dolahena	Kumaradola	Putupaula	

The Ceylon exhibit covered every kind of rubber produced in the colony—Pará, Ceará, and so on—biscuits, crepe, worm, block, sheets, lace, and so on through the list. There were specimens of latex and rubber seed oil; rubber vacuum dried and otherwise; rubber soil and fertilizers; specimens of plants grown for catch crops; sections of rubber trees showing their appearance after tapping by different methods; tapping tools in variety; young rubber plants in Wardian cases; and, finally, many photographs illustrative of rubber cultivation. The Planters' Association of Ceylon sent an extensive series of panel views. The Botanic Gardens sent two *Hevea* trees two years old and one of three years growth.

Ceylon had also a considerable representation in the general or commercial section, in which several estates not having exhibits in the Ceylon section were represented.

The Rosehaugh Tea and Rubber Co., Limited (exhibit No. 3), own estates aggregating 10,465 acres on which an important amount of rubber is planted. This showed sections of trees, marked to show methods of tapping; tapping tools and collecting cups; specimens of rubber prepared by different methods; rubber oil seed and cake, and many photographs.

Rubber Plantations, Limited (exhibit No. 51).—Rubber biscuits from Dangan estates.

J. P. William & Brothers (exhibit No. 25), tropical seed and plant merchants at Heneratgoda, exhibited rubber biscuits and

seeds from *Hevea*, Ceará, and *Castilloa*, all from their Kola estates.

Walker Sons & Co., Limited (exhibit No. 24), of London and Ceylon, showed samples of rubber from the Klanang Produce Co's estates, and many photographs of rubber plantation work in Ceylon and elsewhere.

STRAITS SETTLEMENTS AND MALAYA.

A SPECIAL section was occupied by the exhibits representing the Straits Settlements and the Federated Malay States. These were contributed by the government, by a number of planting estates, and by the botanic gardens at Singapore and Penang. The planters' association in the Federated Malay States sent a typical Malay house. There were many specimens of rubber, in varied forms (mostly *Hevea*), with glass cases containing flowers and fruits of rubber trees, Wardian cases with rubber plants, specimens of catch crops, and so on. The absence of Mr. J. B. Carruthers, the director of agriculture in the Federated States, who had expected to attend, but was prevented at the last moment from doing so, was much regretted. He sent an interesting pamphlet on rubber planting results which was distributed in the Malayan section.

BRITISH WEST INDIES.

THE exhibits in this section were arranged by The West Indian Committee in London, after having been prepared by the permanent exhibition committees of the several colonies.

Dominica (exhibit No. 45) sent flowers, fruits, seeds, and latex of *Hevea Brasiliensis*, *Castilloa elastica*, *Ficus elastica*, *Manihot*



THE CEYLON PAVILION.

Glaziovii, and *Ficus Vogelii*; also several specimens of rubber prepared from the first three species.

Trinidad (exhibits Nos. 46—47) sent specimens of various kinds of rubber produced under cultivation.

British Guiana (exhibit No. 48) was represented by 18 samples of rubber and balata prepared by the colonial forestry officer, the British Guiana Rubber Corporation, Limited; Mr. David Young, and five other individuals or private firms.

St. Lucia (exhibit No. 49) sent specimens of cultivated *Hevea Brasiliensis*, *Castillida*, etc.

AFRICA.

EXHIBIT No. 40 was devoted to British East Africa, one of the principal products for export from which region is india-rubber. The most important native creeper is the *Landolphia Kirkii*, but the newly discovered *Mascarenhasia elastica* is of interest. The exhibit related also to recent experimental work in introducing additional species.

The Companhia de Moçambique, operating in Portuguese East Africa, have an exhibit of 15 items, including several 10-pound samples of native rubbers in different forms, five samples of cultivated Ceará rubber, and collections of plant specimens and photographs of plants and methods of rubber cultivation.

THE DUTCH INDIES.

A NOTABLE feature of the exhibition was the department contributed by the commission appointed by the Dutch government to secure the adequate representation of Holland and her colonies. It embraced not only specimens of rubber and gutta-percha (wild and cultivated), but a profusion of maps and photographs, utensils, and the like; also displays by the rubber factories of Holland. The rubber displays are mentioned here; some of the other displays will be referred to under other headings.

The government of the Netherlands East Indies made a comprehensive exhibit of *Ficus elastica* rubber, gutta-percha, gutta-jelutong (Pontianak gum), palembang gum, fat from gutta-percha seeds, etc., from Sumatra, Java and Borneo; also maps and photographs.

RUBBER DISPLAYS FROM PLANTATIONS.

Deli Maatschappij.—Samples of rubber in six forms from *Ficus elastica* from their rubber and tobacco plantations at Medan, east coast of Sumatra. No acid is used except a small quantity of liquid ammonia in the drip tins.

Rubber Cultuur Onderneming Tji-bening.—Sixty-five bales of *Ficus elastica* rubber; plantation in Preanger regency, Java.

Cultuur Maatschappij Pangledjar.—Samples of *Hevea* rubber, exposed for over two years to light and air, from cinchona, coffee and rubber plantations in Preanger regency, Java.

Maatschappij tot Exploitatie van het land Tjimangies.—Rubber from *Ficus elastica*, from Buitenzorg, Java.

Cultuur Maatschappij Kali Djerveh.—*Ficus* rubber and photo-

graphs of coffee and rubber plantations in Loemadjang division, Java.

Particulier Land Tjikand Ilir.—Rubber from *Ficus elastica*; 40 kilos dried on tree; 15 kilos dried on leaves. From rice, rubber and coffee plantations. Serang division, Java.

Maatschappij ter Exploitatie der Pamanoekan en Tjiassem Landen.—Rubber from *Ficus* and *Castilloa*; leaves and seeds of these species and *Hevea*; tapping tools and other utensils; maps. From Krawang division, Java.

Het Algemeen Nederlandsche-Indisch Rubber Syndicaat te Batavia.—Fifteen samples of commercial rubber from the firm L. Platon & Co., Batavia, Java. They embrace *Castilloa*, *Ficus* (wild and cultivated), and *Landolphia*, prepared by different methods.

Landbouw Onderneming Dolok en Taleon Saragi.—*Ficus* rubber from plantation of Birenstihl & Sulger, Batoe Bahra division, Sumatra.

Weise & Co., Rotterdam merchants, made a display of crude rubber (wild and cultivated), gutta-percha and balata, from the Dutch colonies, Africa, and South America.

OTHER PLANTATION DISPLAYS.

Photographs of plantations, and in some cases maps, were exhibited by Cultuur Onderneming Pasir Waringin (Java); De Rubber Planters Vereeniging at Bandjar (Java); Plantagen Gesellschaft Boenisan (Java); Anglo-Java Rubber Co. (Java); Landbouw Onderneming Tjiseroe (Java); Particulier Land Tjikandi Ilir (Java). Bantamsche Plantagen Maatschappij (Java) showed many photographs of *Hevea* and *Ficus* plantations, and Belgisch Nederlandsche Cultuur Maatschappij photographs of rubber trees 3 years old.

In addition to displays of rubber mentioned already, Het Algemeen Nederlandsch-Indisch Rubber Syndicaat showed some large photographic views of rubber in the Java botanical gardens. Maatschappij tot Exploitatie der Pamanoekan en Tjiassem Landen exhibited 21 photographs of interest of *Hevea*, *Ficus* and *Castilloa* trees on three plantations in Java.

THE COLONIAL MUSEUM'S EXHIBIT.

The Colonial Museum at Haarlem (foundation of the Society for the Promotion of Industry), of which Dr. M. Greshoft is director and H. A. A. van der Lek conservator, made a display embracing—

Caoutchouc from Sumatra, Java and Borneo—12 samples.

Gutta-percha and allied gums, including gutta-percha from leaves—19 samples.

Balata, from Surinam, and articles made of balata—12 samples.

Gum damor, gum copal, dragon's blood, benzoin, and other products of the Dutch East Indies.

Models of native houses in Java, and articles illustrating the life of the natives.

Publications of the Museum.

There may also be mentioned the miscellaneous exhibit of the Netherlands colonial ministry, of telegraph cable models, maps, and books.

ANOTHER DUTCH EAST INDIAN DISPLAY.

Outside of the regular Dutch East Indian department Th. L. A. Runge, of Deli-Moeda estate, Deli, Sumatra (exhibits Nos. 121, 122 in the commercial department), showed specimens of *Ficus* rubber blocks of 5 kilos each, rendered extremely tough and durable by means of smoke only, and also bundles of tobacco leaves. Their exhibit embraced, in addition to photographs, a collection of 128 Batak curiosities, illustrating the life and customs of the natives in that part of Sumatra, and 20 Sumatra birds.

BURMA.

LIEUTENANT COLONEL J. A. WYLLIE (exhibit No. 42) sent from Rangoon a Wardian case containing specimens of two native rubber yielding creepers, and samples of plantation rubber from *Hevea*, Ceará and *Chavannesia (Urceola) esculenta*, one of the creepers referred to.



SPECIAL SECTION OF BRITISH MALAYA.



EXHIBIT OF THE STATE OF AMAZONAS, BRAZIL.
[The specimens of rubber shown exceed 10 tons.]

BRAZIL.

THE principal representation of Brazil was made by the Associação Commercial do Amazonas, of Manáos, with the support of the Amazonas state government, in charge of Senhor Nicolaus H. Witt, as special commissioner of the association, which had erected a pavilion for the purposes of the display. There were specimens of rubber from the rivers Acre, Juruá, Solimoes, Purus, Madeira, Javary, and Negro, of the various grades—fine, entre-fine, weak fine, sernamby (negroheads), and caucho (Peruvian) ball and slab—17 lots weighing altogether 10,046 kilograms [=22,111 pounds]. The largest lot was one of 1,471 kilos of fine rubber from the river Acre. There was included a complete outfit used in tapping trees on the Amazon, collecting latex, and smoking the rubber, the *defumador* shown being one which had actually seen use. So full was this display that it included even specimens of the apparel worn by the *seringueiros* while at work in the rubber fields. There were maps of the state of Amazonas marked to outline the rubber regions, and photographs of rubber working scenes.

The exhibit from Pará was less distinctive, but a representative large and choice collection of rubbers from the lower Amazon was sent by J. Simar da Costa. Auguste Ferreira Dias, of Pará, sent a pair of native rubber boots made and worn by Indians on the rio Yaco.

The federal government of Brazil exhibited in a pavilion a variety of specimens of Brazilian rubber, arranged for by the permanent exhibition committee of that republic in Europe.

Mello & Co., of Pará and Manáos, exhibited through their Liverpool agents a *pelle* of fine hard cured rubber weighing 262 kilograms, produced on one of their estates on the upper Juruá river.

The Brazilian Rubber Trust, Limited, of London, owning and working extensive rubber estates on the island of Marajó, in the state of Pará, had an exhibit (No. 67) in the commercial section, of specimens of Pará rubber from their properties, and of the implements used in preparing rubber, together with excellent photographs of rubber working in the forests.

GUAYULE RUBBER.

ED. MAURER (exhibit No. 82), New York, made an exhibit of specimens of guayule from factories of the following companies in Mexico:

Compania Explotadora Coahuilense, S. A., at Parras.
Salvador Madero & Co., S. e. C., at San Tiburcio.
Compania Ganadera de la Merced, at Torreon.
Fabrica de Hule Australia, at Cuatro Ciénegas.
Fabrica de la Delicias, at San Pedro.

These factories are controlled by the important Madero estate, and have a combined capacity of 11 tons daily. The exhibit in-



RUBBER TAPPERS' HUT, FROM THE PURUS, UPPER AMAZON.

cluded also finished goods made of guayule rubber, with or without other rubbers; also deresined guayule and combinations with other rubbers made both with deresined rubber and crude guayule; also an exhibit of the guayule plant.

Elias Delafond (No. 44), of Mexico City, showed guayule without resin obtained by a new process referred to as giving it a quality similar to Pará and causing it to retain its quality indefinitely.

TRAVANCORE (SOUTH INDIA).

THE Periyar Rubber Co. exhibited a box of rubber. The Shaliacarry Rubber Co. sent a sample of plantation rubber which had taken the gold medal at the Ceylon rubber exhibition. It was grown at an elevation of 3,500 feet. Several other firms exhibited either tea samples or tea estate requisites.

MEXICO.

AN important collection of samples of plantation rubber (*Castilloa*) of which advices had been received had not arrived in London when these notes were prepared. There was an exhibit, however, representing the estate "La Esperanza," in Oaxaca State, owned by The Mexican Rubber Co., Limited, of London. Mexico was further represented in connection with the guayule rubber industry.

COLOMBIA.

NIETO ROCHA & CIA., of Bogotá, made an exhibit of virgin rubber (*Sapium biglandulosum*) from their plantation "El Dorado," at Tolima.

THE KEW GARDENS EXHIBIT.

THE director of the Royal Botanic Gardens, Kew, exhibited a selection of herbarium and museum specimens and figures and living plants illustrative of the principal genera yielding rubber of commercial importance. The plants referred to are those named below, and the display under each heading was very liberal, the whole illustrating practically the whole world of commercial rubber production to-day:

1. *Willughbeia firma*. Malay archipelago. "Getah Singgarip," or "Getah gerip."
2. *Clitandra Henriquesiana*. South central tropical Africa. "Root rubber."
3. *Landolphia Thollonii*. Southern Congo. "Root rubber."
4. *Landolphia Owariensis*. West tropical Africa.
5. *Landolphia Kirkii*. East tropical Africa.
6. *Landolphia Buchananii*. East tropical Africa.
7. *Funtumia elastica*. Tropical Africa. "Lagos" rubber.
8. *Raphioneme utilis*. South Angola. "Ekanda," illustrated in THE INDIA RUBBER WORLD, July 1, 1907 (page 300); tuber rubber.
9. *Urceola elastica*. Malaya.
10. *Urceola esculenta*. Malaya.
11. *Hymenoxys sp.* Colorado, United States. "Colorado" rubber, or "rabbit weed."
12. *Parthenium argentatum*. Mexico and southern United States. "Guayule" rubber.
13. *Hevea Brasiliensis*. Brazil Amazon valley. "Pará" rubber.

14. *Manihot dichotoma*. Southern Brazil. "Jequié" rubber.
15. *Manihot Glaziovii*. Southern Brazil. "Ceera" rubber.
16. *Sapum Jenmani*. British Guiana. "Touckpong" rubber.
17. *Sapum verum*. Colombia. "Virgin" rubber.
18. *Sapum utile*. Ecuador, Peru.
19. *Ficus elastica*. Indo-Malaya. "Rambong" rubber.
20. *Castilloa elastica*. Western tropical America. The standard native rubber of Mexico and Central America.

In addition, the Kew authorities exhibited photographs of young *Castilloa* and *Hevea*, and a group of young living plants of *Hevea Brasiliensis*.

The Kew exhibit formed part of the Loan Section, which included several other items of interest, including young rubber trees grown in London hot houses, photographs representing the growth of rubber trees at various stages, and a series of pictures lent by Francis J. Holloway, of Ceylon, showing different systems of tapping and factory (plantation) work in rubber.

RUBBER PLANTATION REQUISITES.

FRANCIS SHAW & Co., Bradford, Manchester (exhibit No. 16), exhibited: (1) Washing and crepeing machines for preparing rubber on plantations; (2) Scott vacuum stove for drying rubber on plantations; (3) hydraulic rubber blocking press and hand pumps; (4) hydraulic sheeting press.

David Bridge & Co., Castleton, Manchester (exhibit No. 18), showed an electrically driven washing and sheeting machine working on raw rubber, the machine being connected with their improved patent friction clutches. The next process involved their improved vacuum dryer, also shown. Another machine was Bridge's patent rubber hydraulic block press. The exhibit embraced also the Da Costa appliance for the coagulation of the latex in bulk, by means of the infusion of steam and smoke.

Exhibit No. 22 was devoted to the Emil Passburg system of vacuum dryers as applied to rubber plantations, and also rubber goods factories, this being in charge of their London agency.

J. Robinson & Co., Salford, Manchester (exhibit No. 33).—Belt-driven washing mills for plantation use, with roller for macerating crêpe and sheet rubber.

Alexander David Callander, Neboda, Ceylon (exhibit No. 52), showed an instrument for grooving and tapping rubber trees, the knife making the incision and carrying off the skin of the tree at a single stroke.

Robert Warner & Co., Limited, London (exhibit No. 91), manufacturers of rubber plantation machinery showed: (1) Macerating or crêpe machines; (2) sheeting machine, with patent hot rollers; (3) horizontal direct acting steam pump; and (4) the "Walton" patent seatless stop valve.

No. 96. G. van den Kerckhove, Brussels.—"V.D.K." rubber tapping knife; "Fumero V.D.K." apparatus for smoking latex by the Pará system, in two forms.

No. 32. Charles Clark & Co., agents, London.—Vermorel's Ruapsach sprayer.

No. 100. The Bowman-Northway patent knives for tapping rubber were exhibited by Harold F. Blyth, of Stockton, the English agent.

No. 24. Walker, Sons & Co., Limited, London and Colombo.—Rubber estate requisites and tea and coffee machinery; rubber tapping knives with which practical demonstrations were given.

No. 56. "Venesta," Limited, London.—"Venesta" cases for packing rubber and rubber goods.

No. 138. Kalisyndicat G. m. b. H., London agency.—Crude and manufactured potash salts, and a collection of tropical plants and products, representative of growth by manuring with different combinations of fertilizers.

"Purub" is a process protected by patents for effecting speedily the perfect separation of caoutchouc from the latex without the use of apparatus, fumigating, or boiling. This appeared in exhibit No. 19.

No. 61 A. Tangyes, Limited, Birmingham.—Gas and oil engines, pumps, and the like.

No. 61 B. Fleming, Birkby & Goodall, Limited, London.—"Teon" vulcanized textile belting, treated with cement under a secret process, waterproof and designed for hot climates.

No. 61 C. Bergtheil & Young, London.—"Bandy" electric punkahs.

[Huttenbach Brothers & Co., Penang and Singapore, are agents in the East for the three firms last named above.]

No. 23. The Praed Patent Safety Gas Light Co., Limited, London.—An economical, non-explosive, and non-poisonous gas—from petrol, gas and air—for heating and lighting.

No. 27. Trehwella Brothers, Trentham, Victoria.—Log and stump jacks.

SCIENTIFIC APPARATUS.

LOUIS SCHOPPER, Leipzig, Germany (exhibit No. 29), showed no fewer than 11 machines for testing the elasticity and other qualities of rubber, for cutting and gaging the thickness of materials, for ascertaining the number of threads in woven material, determining the earthy ingredients of rubber, and so on.

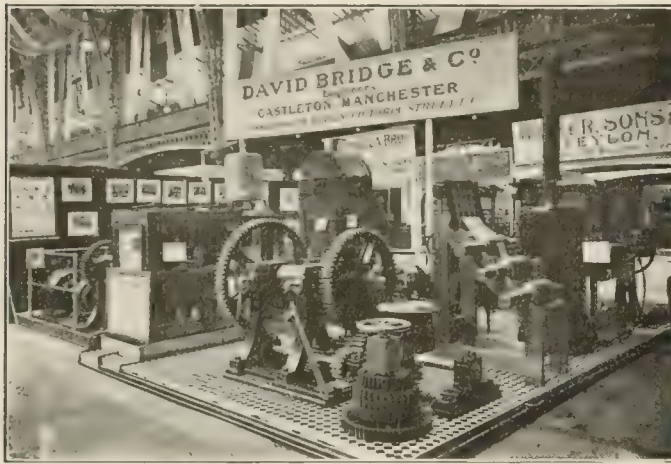
The collective exhibition of a laboratory for scientific and technical india-rubber researches under the direction of co-exhibitors (exhibit No. 36) was under the auspices of Dr. Eduard Marckwald and Dr. Fritz Frank, of Berlin. The laboratory installations, instruments, and apparatus were supplied by Paul Altmann, Berlin; optic instruments, Ernest Leitz, Wetzlar; electrical measuring apparatus, Gans & Goldschmidt, Berlin; india-rubber roller, Joseph Robinson & Co., Manchester; stoneware, gas, and water fittings. The space was divided into special working rooms and provided with the most important implements for technical and scientific work, the whole being comprised in three compartments: (1) The physical laboratory; (2) manufactory space; and (3) chemical laboratory, the whole containing nearly a hundred different items of apparatus.

The exhibit of the *India-Rubber Journal* (No. 90) contained a collection of apparatus for testing rubber, lent by Mr. Wright, the editor, and Dr. R. Schidrowitz, of Germany, this being divided into (1) physical apparatus and (2) chemical apparatus



EXHIBIT OF GUAYULE RUBBER.

[Made by Ed. Maurer, of New York, representative of important rubber producing companies in Mexico.]



A DISPLAY OF RUBBER MACHINERY.



EXHIBIT No. 85.

used in rubber work. This portion of the exhibit embraced 25 items, and was very comprehensive in character, as well as very interesting.

A. D. Cillard fils, Paris (exhibit No. 105), showed the "P. & B." Dynamometer, for testing india-rubber, gutta-percha, tissues, threads, wires, and the like, and their new apparatus called the Elasto-Durometer, for determining the elasticity of india-rubber, gutta-percha, and other materials.

RUBBER GOODS FACTORIES.

THE India-Rubber, Gutta-Percha and Telegraph Works Co., Limited, London (exhibits No. 4, 5 and 6).—"The history of cycle tyres," illustrated with models from the earliest practice to the present, in tires for bicycles, followed with similarly arranged models of motor tires, including the company's latest products "Persan" and Palmer Cord. Also historical display of rubber matting and floor covering, dating back more than a half century; also rubber stair treads and nosing; miscellaneous rubber goods; gutta-percha raw and manufactured, including the latest Silver-town golf balls; an excellent display of ebonite (hard rubber) goods; surgical appliances, fountain pens, and so on. In addition, samples of rubber and gutta-percha insulated cables of various kinds are shown.

Irwell and Eastern Rubber Manufacturing Co., Limited (exhibit No. 74), Manchester.—Balata belting, balata conveyor belt, and general mechanical rubber goods; cab tires, packing, valves, etc.; specimens of balata and of the cotton duck used.

The Northern Rubber Co., Retford, Notts (exhibit No. 35).—General rubber goods for mechanical purposes; waterproof goods; leatherite jointing (sole manufacturers).

The Liverpool Rubber Co., Limited, Liverpool (exhibit No. 88).—A circular rubber mat which has been in use for 35 years.

The India Rubber Manufacturing Co., Manchester and London (exhibit No. 89 A).—Revolving rubber heels of four types, other rubber heels, and heel tips.

Diespeker, Limited, London (exhibits Nos. 59-60), made a display of the Dunlop Rubber Co.'s rubber tiling, for use in public and private buildings, on steamships, yachts, railway carriages, and the like.

Thomas Balshaw, manufacturers' agent, London (exhibit No. 110), representing the following German houses:

Otto Dillner, Leipzig—Seamless rubber goods, hard rubber waterproofed specialties.

Gummifabrik Westend, G. m. b. H., Berlin.—Ebonite for the electrical and engineering trade.

Neumann & Boetler, Hamburg—Asbestos and asbestos rubber goods.

The Hanseatic Vulcanized Fibre Co., Limited, Hamburg—Vulcanized fiber sheets, rods and tubes.

Société Industrielle des Telephones, Paris (exhibit No. 99), Telephone apparatus, arc lamps, lighting installations; industrial rubber; tire "L'Electric"; rubber shoes; electric wires, and cables of high and low tension.

Nederlandsche Caoutchouc en Gutta Percha Fabriek "St. Joris," firm Bakker & Zoon, at Ridderkerk, Holland.—Mechanical rubbers, tires, gutta-percha and hard rubber goods, rubber-asbestos products.

Gebroeders Merens Fabriek van Caoutchouc Arkikeln, Haarlem, Holland.—Technical rubber goods; hard rubber.

Amsterdamsche Caoutchouc Fabriek, voorheen Pompe & Co., Amsterdam, Holland.—Rubber flooring tiles showing the coats of arms of Great Britain and of the Netherlands.

Nederlandsch Guttapercha Maatschappij (Netherlands Gutta-percha Co., Limited), Singapore (exhibit No. 58), who have in operation the only rubber goods factory in the Far East, exhibited their products of solid rubber tires, hose, buffers, and other rubber goods.

RUBBER WORKS MACHINERY.

THE various engineering firms making exhibits displayed machinery for rubber works as well as for plantation purposes—as, for instance, David Bridge & Co., who are referred to more fully under another heading. The following, however, seem to require special mention as suppliers of equipment for rubber works:

Francis Shaw & Co., Bradford, Manchester (exhibit No. 16), exhibited: (1) Hydraulic press for all descriptions of small molded rubber goods and (2) a machine of exceptional strength for grinding waste rubber.

Werner, Pfeleiderer & Perkins, Limited, Peterborough, England (exhibit No. 14).—Machinery for washing and masticating rubber, gutta-percha, and balata; also for making rubber solutions and doughs and mixing and sifting compounding materials. Also mixing and incorporating machines for all requirements.

RUBBER FACTORY SUPPLIES.

THE British Recovered Rubber Co., Limited (exhibit No. 150), Liverpool.—The "Amazon" standard grades of recovered rubbers.

The Northwestern Rubber Co., Limited (exhibit No. 84), Litherland, Liverpool.—Reclaimed rubber manufactured under the Marks alkali patents. Mr. Ernest E. Buckelton, general manager, who controls the executive and selling departments, and who is equally well known to American and European rubber manufacturers, was active from the beginning in promoting the objects of this exhibition.

Alfred Smith (exhibit No. 89), Clayton, Manchester.—Reclaimed rubber, rubber substitutes, chemicals, and colors.

Typke & King, Limited (exhibit No. 75), London.—Rubber substitutes, chemicals, and colors; also specimens of rubber goods in which these have been employed.

The British Murac Syndicate, Limited (exhibit No. 78), London.—Pure Murac and products.

Forster & Gregory (exhibit No. 79), London.—Samples of coloring materials and vulcanizing and preserving agents used in the manufacture of rubber goods, and some of the results of their application to these purposes.

The Lipsia Chemical Works, Limited (exhibit No. 20), Mugeln near Leipzig, Germany.—Magnesia (carbonate and oxidized) for the rubber manufacture.

Holt Town Rubber Co.—W. Openshaw, proprietor (exhibits Nos. 93-94), Manchester.—Light and dark substitutes; recovered rubbers; pigments for the rubber manufacture.

John Bright & Brother, Limited (exhibit No. 81) Rochdale, England.—Cotton ducks for tires, rubber and balata belting, packing, hose, mechanical goods, and canvas shoes.

The Crosskeys Manufacturing Co. (exhibit No. 86), London.—“Glossine,” a solution for protecting rubber from oxidation and for waterproofing leather; “Endurite,” a waterproof cement for uniting rubber to rubber or leather; “Newit” waterproof invisible boot soles and patches.

LITERARY EXHIBITS.

The *Ceylon Observer*, of Colombo, Ceylon, and the allied publications of A. M. & J. Ferguson, including many important books relating to tropical agriculture, occupied exhibit No. 1 of the commercial section.

The *India-Rubber Journal*, the representative British journal of the rubber trade, edited by Herbert Wright, F.L.S., with a collection of technical works, occupied exhibit No. 90. Another feature of the exhibit is mentioned under a different heading.

The “Tropical Life” stand (exhibit No. 103) was devoted to planting and scientific journals, including *Tropical Life*, edited by H. Hamel Smith, and general literature of interest to planters and scientific men in the tropics.

A. D. Cillard fils, of Paris (exhibit No. 105), exhibited his journal *Le Caoutchouc et la Gutta Percha* and other technical publications, together with some apparatus mentioned in another place.

Exhibit 106 was that of Dr. Rudolf Ditmar, of Graz, Austria, who was represented by a number of technical publications of which he is the author, relating to india-rubber.

The German rubber journal *Gummi-Zeitung*, of Berlin, occupied exhibit No. 107. In addition to a complete file of that journal were shown a number of volumes relating to rubber by the same publishers. These include some of the most important books on rubber in the German language.

Capper & Sons, publishers of the *Times of Ceylon*, of Colombo, occupied exhibit No. 137, with files of their paper and of their other publications, including an excellent “Tropical Investor’s Guide.”

The *American Register*, Paris and London (exhibit No. 73), is a journal of American and European circulation, especially among the tourist class.

THE INDIA RUBBER WORLD, New York (exhibit No. 85), exhibited bound files of the journal, and distributed printed matter regarding the character and advertising of the books issued from its office. An “INDIA RUBBER WORLD Information Bureau” was maintained, with Mr. Henry C. Pearson, the editor, in attendance.

Gow, Wilson & Stanton, Limited, London (exhibit No. 41 B), occupied their space with a series of statistical demonstrations of the respective amounts of plantation and forest grades of rubber produced in the world.

MISCELLANEOUS EXHIBITS.

A. W. LESLIE, London (exhibit No. 108), an extensive handler of waste-rubber, showed a large assortment of the various grades of scrap.

The Russian-French India-Rubber, Gutta-Percha and Telegraph Co., “Prowodnik,” Riga, Russia (exhibit No. 63), exhibited reclaimed rubber from Russian galoshes. Selling agents in England: Edmund Schlüter Co., and John Lang, London and Liverpool.

Batu Caves Rubber Co., Limited, London and Federated Malay States (exhibit No. 26), showed a board-room table covered with rubber to demonstrate another use to which rubber can be put.

The leading British railways occupied spaces for exhibiting photographs, paintings, etc., of their respective systems. Exhibit No. 151 was taken up by the Kearney high speed railway model, a distinctive feature of which is a single bearing rail, the system being adaptable to tube railways as well as surface roads.

Steamship companies were represented as well as railway lines leading into London. Exhibit No. 41 A was taken by the Booth Steamship Co., Limited, Liverpool, who displayed attractive views of their steamers at sea.

Several exhibits were devoted to the facilities for handling crude rubber in the English market, including the following:

No. 41. London and India Docks Co., London.—View of vaults and upper floors, showing the methods of sampling and sorting and weighing rubber and gutta-percha.

No. 41 C. Bull Wharf and Warehouse, London.—Photographs of the wharf and showing operations of handling crude rubber and gutta-percha.

No. 133A. Henry Kiver & Co., Liverpool.—Views of rubber vaults.

There were in every part of the exhibition the photographs of cultivated rubber trees in different stages of growth, and illustrating the various processes of rubber plantation management, as well as of the character of the laborers and their manner of life. In addition to special mentions of photographs throughout this report, reference may be made to exhibits Nos. 97, 98, 101, and 102 as devoted entirely to material of this class.

There were such further exhibitors as the Salter Typewriter Co., the Tella Camera Co., “Our Dumb Friends League,” Strong & Co. (florists and decorators), and so on.

E. R. & F. Turner, Limited, London, showed specimens of smooth cast iron rolls, and a “John Bull” vertical steam engine.

THE UNITED STATES AT THE EXHIBITION.

THE Rubber Regenerating Co. (Chicago) had an exhibit, run by Mr. R. M. Howison, of London, who will be remembered kindly by many members of the trade in America. They are erecting a plant at Stoke Newington. Mr. H. MacKusick, their superintendent, has been in London for a while looking things over.

Mr. Frederick C. Hood, of the Hood Rubber Co. (Boston), attended the Exhibition. On the day of his arrival in England, just before the opening, he beat one of the crack local golfers.

Mr. Ed. Maurer, of New York, representing an important guayule rubber interest which has a fine display at Olympia, was personally in attendance at the Exhibition.

Mr. Theodore E. Smith, editor of the *India Rubber Review*, arrived in time to attend the initial proceedings, held on the afternoon of September 12.

Mr. Robert B. Baird, vice-president of the Rubber Trading Co. (New York), an important concern in the crude rubber trade, was in attendance throughout the Exhibition.

Mr. Quincy Tucker, of Boston, who has studied extensively the Bolivian rubber situation, represented the *Boot and Shoe Recorder*.

Mr. William A. Jameson, of The Fisk Rubber Co. (Chicopee Falls, Massachusetts), was a participant in the proceedings at Olympia, incidental to a six-weeks’ vacation in Europe.

Mr. S. W. Evans, of New York, of the Picher Lead Co., dealers in rubber manufacturers’ supplies, was an interested visitor at the Exhibition a number of times.

Some Notable Exhibits and Mr. Bamber's Processes.

By Hubert L. Terry.

THE main features of this International Rubber Exhibition have been dealt with by the Editor, and the observations I am about to make refer entirely to the raw rubber exhibits of Ceylon and British Malaya, which occupy two of the most prominent stands in the Hall. Stand is perhaps too plebeian a term to use in connection with the ornate pavilion of Ceylon and the attractive native dwelling of Malaya, but its significance will not be misunderstood. These two exhibits, along with the Dutch colonial exhibits, may, I think, be selected from the bulk of the show as of special interest, embodying as they do the results up to date of the rubber planting industry—one of the newest departures in economic botany. In no way do I wish to belittle the interest attaching to exhibits of raw rubber from the forest—such as the splendid show made by the State of Amazonas. Native rubber, however, is not exactly a novelty, and as the object of the exhibition was declared by the president in his opening speech to be primarily educational, it is important to lay stress on the greatest novelties in so far as they have an important bearing upon the rubber interest generally.

Both the Ceylon and the British Malaya stands contained samples of plantation rubber from the most important of the numerous companies located in their respective districts, and it would probably prove more monotonous than instructive to refer to each of these separately, especially as the rubber in its various forms of sheet, block, crêpe, worm, etc., is much the same as produced by each company. Botanical exhibits were numerous, and also photographs of general scenery and processes connected with the industry. Samples of such catch crops as indigo and tapioca were also to be seen, and mention should not be omitted of the model estate rubber factory at the Ceylon stand fitted up according to Mr. Kelway Bamber's ideas of how the work of preparing raw rubber for the European market should be carried out. It is, of course, notorious that the procedure on different estates varies considerably, which is not surprising, seeing the novelty of the whole business, and no doubt for some time to come we shall witness great divergencies of opinion.

There is no doubt, however, that the planters will best serve their own interests if they endeavor to produce rubber of always the same quality, even of the same tint. This latter point may not really be of any importance, but it carries weight with the less enlightened manufacturer. The great complaint in manufacturing circles up to now has been about the want of uniformity in bulk lots of plantation rubber, and this is of course due to the different procedure adopted on the various estates, and also to the variable procedure of any particular estate. In this respect, therefore, I consider that the detailed proposals made by Mr. Kelway Bamber for the coagulation and preparation of the rubber on exact and uniform lines form one of the most important topics brought to the notice of visitors to the exhibition. The variation in the color of the plantation Pará from Ceylon and Malaya as shown in the numerous specimens on the stands is very striking, practically all shades from pure white through yellows and browns to black being represented. If Mr. Bamber's process is generally adopted in the future it will mean that a uniform product which is practically white will be produced and that rubber manufacturers will be able to order lots amounting to several tons with full confidence that the quality will be the same throughout. It would take up too much space to give Mr. Bamber's proposals in anything like detail, but a summary of the main points may be attempted.

It is important to make a daily testing of the latex from each field in order to determine when the proportion of rubber has fallen to the minimum paying quantity.

Whatever method of tapping is employed, the trees should be marked in such a way that the bark will be removed systematically and no irregular patches left which can not be tapped. The best angle is 45°, and this should be maintained by keeping the cuts perfectly parallel from start to finish, and not gradually making them more vertical towards the lower end.

The knife must be kept perfectly sharp so as to cut and not tear the bark, and immediately after making the cut the channel should be moistened with a very dilute ammonia or formalin solution applied by means of a piece of cloth on a stick; this encourages the flow, delaying the coagulation, and the proportion of scrap rubber is reduced.

Mr. Bamber advised the use of glass or stoneware cups in preference to sheet iron, as they are more readily cleaned. They are also to be washed before use in a dilute formalin solution made by mixing 1 part of the ordinary 40 per cent. solution of commerce with 40 parts of water. All the latex collected in the cups is to be strained through fine wire gauze into enamelled or wooden buckets, and on arrival at the factory is again strained into large vats and sampled for its yield of rubber. With regard to the determination of the amount of web rubber per gallon it may be remarked that unless the exact procedure is detailed very variable results will be obtained by different operators, a very similar case being the approximate determination of gluten in flour. With regard to coagulation Mr. Bamber does not seem to favor mechanical methods except where the amount of latex to be treated is only small. His proposals are a high temperature and the use of well diluted acetic acid.

It is in the coagulation that his most important suggestions arise. He has found that if the latex has steam passed into it until the temperature rises to 180° F. and is maintained at this heat for three hours, certain organic substances of a proteid nature are destroyed and the rubber subsequently precipitated by acetic acid is quite white and maintains this color after shipment. It is mentioned that a solution of wood creosote in spirit can be added during coagulation if desired. Presumably the doctors are not agreed as to the utility or otherwise of this addition of creosote. Samples of perfectly white rubber prepared by this oxydase destroying process were to be seen on both the Ceylon and Malaya stands, and it will be interesting to hear what the trade has to say about them. Mr. Bamber's main contention is that uniformity in bulk will be secured, and, further, that the colorless rubber will be found of special use in the manufacture of certain goods—such as teats, for example—the white color not being affected by the vulcanization.

With regard to the subsequent washing and rolling processes it is advised after the first rolling to again immerse the rubber sheet in water at 180° F. to ensure complete destruction of the oxydase and the complete removal of all soluble matters on which bacteria and fungi grow. After this the rubber is allowed to contract naturally in cold water out of contact with the air.

Mr. Bamber is against the too rapid drying of the rubber and remarks that the 10 to 15 per cent. of moisture in Brazilian Pará is probably an advantage to it. He does not seem to be enamored of the vacuum drying process, and thinks that the vacuum process if used at all should only come after the natural drying in order to get the rubber quite dry for packing. The best method in his opinion is the use of perfectly dry air which can be obtained easily and economically by a plant of which a working model was shown at the Ceylon stand. It involves the use of a refrigerating plant and a system of pipes which strike one as decidedly ingenious, and for the purpose to be achieved to be devised on sound scientific lines.

Rubber Exhibition Miscellanea.

SIR HENRY BLAKE.

SIR HENRY ARTHUR BLAKE, G.C.M.G., who presided over the Rubber Exhibition, after having been in the public service for years at different posts, in December, 1903, became governor of Ceylon, where his work was of marked excellence. While there he showed an acute interest in the development in every way of the colony, and particularly in the then new rubber planting interest. As will be remembered, he presided over the successful Ceylon Rubber Exhibition in 1906. Since his retirement from active public service Sir Henry has not lost his interest in rubber culture, as is indicated by such contributions from his pen as that on "The Position of the Rubber Industry," appearing in the *London Financial Review of Reviews* of June last. Sir Henry is now the possessor of "Myrtle Grove," in Ireland—Sir Walter Raleigh's historic house. It was there that Raleigh first planted the potatoes he carried from the new world.

MR. RUTHERFORD.

MR. H. KERR RUTHERFORD, of whom a portrait is given, is chairman of the Rubber Growers' Association, with offices in London, a sketch of which has appeared in *THE INDIA RUBBER WORLD* [November 1, 1907—page 45]. He was one of the vice-presidents of the Rubber Exhibition.

COLONEL BOSWORTH.

COLONEL W. J. BOSWORTH, born in 1858 at Birmingham, was educated successively in local schools, and Caius and Downing College, Cambridge, after which he joined the army. In search of big game he became a great traveler, visiting practically every country in which rubber is native or is now planted. *The Tropical Life* says: "His powers of organization led to his being appointed to the command of the second provisional battalion at Aldershot at the outbreak of the South African War, and it is well known how pleased the authorities were with the work he put in there, and to this day his contributions to the military press on army organization and other matters dealing with the forces attract the attention of all up-to-date army men." The same qualities of executive capacity have rendered Colonel Bosworth most helpful in the organization of the Rubber Exhibition.

A. STAINES MANDERS.

Nor the least interesting feature of the Rubber Exhibition was the method followed in the organization. The suggestion of such an exhibition having been made and favorably received, and the nucleus of committees having been formed, the work of creating the exhibition was placed in the hands of a professional organizer of such enterprises—a profession, by the way, which has been developed more in Great Britain perhaps than in any country. This condition may be regarded as a logical result of the fact that Great Britain was the pioneer in the field of industrial exhibitions of the modern type—beginning with the Great London Exhibition of 1851—and the British metropolis has come to be the site of exhibitions of general importance, of yearly or more frequent occurrence, and representing at one time or another almost every business or industrial interest.

Mr. A. Staines Manders, the organizing manager of the Rubber Exhibition, was born in the "fifties," on the goldfields in Victoria, Australia, in a tent, it is probable. His father was publishing the *Goldfield News*, or some such pioneer newspaper, so that Mr. Manders's journalistic inclination comes natural to him. As to his present profession, Mr. Manders said: "My first exhibition was one day when I climbed a fence, with some help from the outside, and got in free to see the late Duke of Edinburgh open it. I also got exhibition from my mother when I got home for being out all day." His first serious exhibition

was in 1879 as reporter at the Garden Palace, Sydney, and other exhibitions followed while he attended as representing the government as assistant organizing manager.

Mr. Manders has organized a number of exhibitions, some of a large character—some without pay and others on a commission basis. He was assisted in several government or public exhibitions. As *Tropical Life* (London) says; he is "a born organizer of exhibitions, if there ever was one." Already, Olympia has been secured for the World's Touring Sports, Pastimes and Travel Exhibition for 1909, and a great Canadian Commercial Exhibition for 1910. He is also at work on a Women of All Nations Exhibition, Arts, Crafts and Industries.

E. E. BUCKLETON.

MR. ERNEST E. BUCKLETON, who is by far the best known rubber man in Europe, arranged for a general conference of rubber manufacturers of the world during the exhibition. This was exceedingly well attended. Mr. Buckleton also proposed that on the evening of September 24 an invitation banquet be held for rubber manufacturers and rubber planters. This was put in charge of the Ceylon Association, Mr. E. E. Buckleton, and Mr. H. C. Pearson, Editor of *THE INDIA RUBBER WORLD*. Mr. Buckleton is general manager of the Northwestern Rubber Co. (Liverpool). Though a native Britisher, Mr. Buckleton can boast of a successful experience of more than a dozen years in the American rubber trade.

THE MANUFACTURERS' CONFERENCE.

The official catalogue of the Rubber Exhibition gave a list of the rubber goods manufacturers in Great Britain, France, Germany, Holland, Belgium and Italy who had intimated their intention of being present to take part in the International Conference of Rubber Manufacturers, subsequent to which THE



THE GOW, WILSON & STANTON COMPETITION CUP.

[Silver bowl (value 25 guineas) for the most economical process for preparing plantation Para rubber from the latex, which will give the best and most uniform product on a large scale, entered by Gow, Wilson & Stanton, Limited, tea and rubber brokers, London. This was specially mentioned in President Blake's opening address.]

INDIA RUBBER WORLD received additional lists of the same kind, but at the time these notes were being compared it was impossible to give anything like a complete list of the visiting manufacturers actually in London for this purpose or who were certain to be in attendance. The list up to date, however, includes the leading firms both in Great Britain and on the Continent. The difficulty of being more complete in this respect is enhanced by the fact that in every case the names of the intended representatives of each company had not been learned. Mr. F. E. Buckleton is named in the catalogue as the Convenor of the conference.

THE RUBBER CONFERENCE.

AN important feature of the Exhibition was the International Rubber Conference, which was attended by scientific men from all the countries represented by exhibits at Olympia. One of the illustrations in this paper is a view of one of the earlier sessions of this conference. A number of papers were arranged for in advance, and others were not announced before they were read. Besides, the discussions, also to be published later, were participated in by a number of other members. At the time of preparing this report the gentlemen named below were scheduled to read papers, or deliver lectures, but all had not given notice of the topics to be covered:

Dr. FRITZ FRANK, Consulting and scientific india-rubber chemist, Berlin.
GUSTAV VAN DEN KERCKHOVE, Consulting india-rubber expert, Brussels.
G. SPRINGER, Editor *Gummi-Zeitung*, Berlin.
Professor Dr. O. WARBURG, Professor of tropical agriculture at Berlin; editor *Der Tropenpflanzer*.

Dr. WERNER ESCH, Westfalen, Germany.

ALFRED DOMINIKUS, Schwelm, Germany.

Dr. PEDRO ARENO, Germany.

V. R. WICKWAR.

Dr. TROMP DE HAAS, Director government gutta-percha estate "Tjipeter," Java.

PIERRE BREUIL, Engineer; editor *Le Caoutchouc et la Guttapercha*, Paris, France.

HENRI JUMELLE, Faculty of sciences, Marseilles, France.

Monsieur BERTRAND, France.

Monsieur DYBOWSKI, Inspector General of agriculture for the French colonies.

HIPPOLYTO VASCONCELLOS, Commissioner for the republic of Brazil.

Dr. RUDOLF DITMAR, Rubber chemical school, Graz, Austria.

M. KELWAY BAMBER, F.I.S., F.C.S., Government representative for Ceylon.

Dr. HENRY P. STEVENS, F.I.C., England.

Dr. D. SPENCE, Bio chemical department Liverpool University, England.

CLAYTON BEADLE, Analytical chemist, England.

W. G. FREEMAN, B.S.C., A.R.C.S., England.

Dr. JOSEPH TORREY, Analytical chemist, Liverpool.

HAROLD BROWN, England.

Dr. PHILIP SCHIDROWITZ, F.C.S., England.

Professor A. H. BERKHOUT, Ex conservator of forests in the Dutch East Indies.

Dr. A. G. N. SWART, President of the Netherlands commission to the rubber exhibition.

Dr. M. GRESHOFF, Director of the Colonial Museum, Haarlem, Holland.

Professor F. A. F. C. WENT, Professor at the University of Utrecht, Holland.

Professor G. S. BOULGER, England.

N. H. WITT, Commissioner for the state of Amazonas, Brazil.

Dr. PEHR OLSSON-SEFFER, Chairman of the delegation from the Rubber Planters' Association of Mexico.

Professor FRANCIS E. LLOYD, Director guayule experiment station, Zacatecas, Mexico.

Sir DANIEL MORRIS, K.C.M.G., Commissioner of agriculture for the British West Indies.

HERBERT WRIGHT, A.R.C.S., F.I.S., Editor of *The India-Rubber Journal*, London.

HENRY C. PEARSON, Editor of *THE INDIA RUBBER WORLD*, New York.

NOTES AND PERSONALS.

THE advance notices in the English newspapers contained generally notices similar to this from the *Liverpool Daily Post and Mercury* of September 8:

"During the Exhibition Mr. H. C. Pearson, Editor of *THE INDIA RUBBER WORLD*, New York, will give lectures on the following subjects:—I. Stereopticon lecture on the manufacture of rubber goods in the United States and Canada, with views of the exteriors of typical factories in the various lines of manufacture, such as rubber foot-wear, druggists' sundries, insulated wire, clothing, etc., to be followed by views of the interiors of factories making the same line of goods, including automobile

parts. He will also show washing, drying, calendering and vulcanizing. 2. A talk on crude rubber production will cover specifically the gathering, i. e., tapping, coagulation, handling and shipping of crude rubber in the Amazon countries, and in Panama, Costa Rica, Nicaragua, Mexico, Hawaii, Ceylon, and the Federated Malay States, with typical views of the countries themselves. 3. A talk on synthetic rubbers, also on substitutes and their assistants."

The India Rubber, Gutta Percha and Telegraph Works Co., Limited, had a stand on the walls of which was shown the Evolution of Rubber Tiling from 1889-1908. The final result was very beautiful, their imitation granite effects being exceedingly rich. The whole floor of their exhibit was covered with beautiful tiling also, while on the counters was shown fine samples of hard rubber in various forms, insulated wires, cables, etc.

Merens Brothers, as a part of their exhibit, showed a length of $\frac{3}{4}$ garden hose 670 feet long, made by a new machine that makes hose in any length and without the use of the braiding machine; in other words, it imitates the regular $\frac{3}{4}$ rubber garden hose, cloth wrapped and steam cured.

Type & King, Limited, showed some wonderful substitutes in snow white, crimson and yellow, also rubber soling in which their colors were used, green, yellow, red and black. The yellow in these soles was particularly good. They had also in large glass jars samples of their full line of colors and compounding ingredients. In two huge jars of water was shown their "Parateka" in amber color and in black. It is a floating substitute with a specific gravity of 0.964.

The postmaster general of the German empire sent two important officials to make special inquiries regarding rubber. The French government was specially represented by M. Dybowski, the general inspector of colonial agriculture.

An excellent musical program was rendered by Herr Meny's Bleu Viennese Band three times daily—for an hour, beginning at noon; in the middle of the afternoon; and from 7 to 10 o'clock.

MORE ABOUT "TABBYITE."

THE company exploiting "Tabbyite" [see *THE INDIA RUBBER WORLD*, September 1, 1908—page 404] have supplied some further details. They say: "We do not claim it to be a substitute for rubber in the general sense, but we do know from practical tests of the material, covering a period of three years, that it is well adapted for insulating purposes, hard rubber flooring, matting, and the like. It differs quite materially from elaterite in that it is soluble in the usual solvents, and its base is ozokerite. It contains probably about 8 per cent, ozokerite, and a number of volatile and non volatile oils. It is quite easily manipulated, which distinguishes it from elaterite, the latter being quite difficult to handle in a commercial way. It is also quite different from gilsonite, the latter being an asphaltene bitumen, and exceedingly brittle." The people mining Tabbyite regard the Utah deposit as the only one in existence, and add: "It seems to be a mixture of asphalt and paraffine base oils subjected to some action in the way of heat pressure that has given it its present character."

VALENTINE B. LANG, vice president and general manager of The Hartford Rubber Works Co. (Hartford, Connecticut), died of heart trouble on September 22, at his home in Hartford. He was born in New York city in 1858. Mr. Lang was elected vice president of the Hartford company at the annual election July 17, 1906, and the additional title was conferred on him March 8, 1907. He had previously, for some time, been connected with Morgan & Wright, and was in charge of the construction of their large rubber works at Detroit, Michigan. Mr. Lang was a thirty-second degree Mason. He left a widow.

News of the American Rubber Trade.

IT is stated that the condition of the business of the United States Rubber Co. has been such during the first half of the fiscal year beginning April 1 last that the first and second preferred dividends have been fully earned. This is a better showing than some of the directors anticipated at the beginning of the fiscal year, when it was thought that it might be necessary to draw upon the surplus somewhat in order to maintain the regular dividends. The condition of the company is otherwise indicated by the fact that the company's preferred shares of late have been quoted at par or higher, after having declined, during the period of business as low as 61¼. The highest price last year—before the depression—was 109¾.

TENNIS SHOE PRICES.

THE United States Rubber Co. on September 1 issued a new price list of tennis shoes made at the Goodyear Glove factory, in Naugatuck. List prices remain the same as last year on "outing" and "Racquet" styles, but there has been a slight advance on the "Athlete." The Glove company this year have a new feature—an extra strong high grade shoe for basket ball players.

A TRYING TIME FOR TIRES.

THE Vanderbilt Cup race this year is to occur on October 24, in Nassau county, Long Island, near New York city. The course is 25.4 miles, and the total distance 250 miles. By the way, Mr. William K. Vanderbilt, Jr., the donor of the trophy for this annual event, is reported in the newspapers to have given up automobile racing so far as he is personally concerned, after having done so much on both sides of the Atlantic to promote automobiling as a sport.

DIXON COMPANY PERSONALS.

MR. JOHN M. READY, manager of the New York branch of the Joseph Dixon Crucible Co. (Jersey City, N. J.), before settling down in that position had traveled in every American state and in Mexico, and during the past summer made a trip to Europe, from which he returned during the first week of the past month. Mr. George T. Smith, vice president of the Dixon company, at the recent convention in Boston of the National Association of Stationers and Manufacturers—where the company, by the way, had five representatives—was elected a director of that body.

RUBBERS AT A SHOE FAIR.

THE rubber shoe trade was well represented at the third National Shoe and Leather Fair, held in the Coliseum, in Chicago, Aug. 26-Sept. 2. The Hood Rubber Co. (Boston) had a display, and others were made by the Chicago agencies and branches of a number of the rubber footwear manufacturers. An exhibit was made by the Marion Rubber Co., a rubber footwear jobbing house of Marion, Indiana. Morgan & Wright (Detroit, Michigan) had a display in the findings department and the Western Electric Co. (Chicago) among the shoe machinery exhibits. The Rubberhide Co. (Boston) were also exhibitors.

RUBBER GOODS DIVIDEND.

THE directors of the Rubber Goods Manufacturing Co. (New York, September 2) declared the thirty-eighth regular quarterly dividend of 1¾ per cent. on the preferred shares, out of earnings, payable September 15.

A BANKRUPT TIRE CONCERN.

A PETITION in bankruptcy has been filed against Van's Auto Tire Co., No. 792 Seventh avenue, New York, by three creditors, two of whom are rubber tire manufacturers. The company was incorporated February 24, 1908, under the laws of New York state, with \$10,000 capital authorized, to deal in automobile tires and accessories. Frank Van Tassel, No. 220 West Forty-eighth

street, was one of the incorporators and later was president and active manager.

FINAL DIVIDEND DECLARED.

A FINAL dividend has been declared in the matter of the bankruptcy of the Milwaukee Rubber Co. (Cudahy, Wisconsin), the total of dividends aggregating \$79,001.50, or a total of 31½ per cent. on the liabilities of the company, which were \$257,525.62. The bankruptcy was reported in THE INDIA RUBBER WORLD April 1, 1906 (page 238). The plant of the company was acquired and continued in operation by another corporation.

NEW INCORPORATIONS.

MICHELIN Tire Co., of Massachusetts, under the laws of Massachusetts, with \$10,000 capital, to control the business in that State of the Michelin Tire Co.; headquarters in Boston. J. C. Matlack and Emile Fontaine, of Milltown, New Jersey, are respectively president and treasurer, and L. H. Fiske, of Boston, clerk.

Willkie Rubber Manufacturing Co., September 5, 1908, under the laws of Massachusetts; capital, \$95,000, now reported to be fully issued and paid. Incorporators: Robert J. Wilkie and Arthur S. Brock, Lynn, Mass.; Annie L. Learning, Saugus, Mass.

Chester Auto and Tire-Filling Co., September 15, 1908, under the laws of New York State; capital, \$50,000. Incorporators: Theodore Chester, Sudbury, Pennsylvania; Asbury J. Chester (No. 82 Arnold street) and H. C. Harrison, Buffalo, N. Y. Principal office: Buffalo, N. Y.

UNITED STATES RUBBER CO.'S SHARES.

TRANSACTIONS on the New York Stock Exchange for five weeks, ending September 26:

COMMON STOCK.

Week August 29	Sales 1,600 shares	High 34¾	Low 33
Week September 5	Sales 800 shares	High 35	Low 34
Week September 12	Sales 1,300 shares	High 34	Low 32¾
Week September 19	Sales 2,900 shares	High 34	Low 29½
Week September 26	Sales 1,800 shares	High 30½	Low 28¾

For the year—High, 37½, Aug. 7; Low, 17½, Feb. 26.
Last year—High, 52½; Low, 13.

FIRST PREFERRED STOCK.

Week August 29	Sales 1,100 shares	High 100¾	Low 90
Week September 5	Sales 1,273 shares	High 100½	Low 100¾
Week September 12	Sales 1,275 shares	High 101	Low 100
Week September 19	Sales 2,322 shares	High 100¾	Low 98
Week September 26	Sales 670 shares	High 99½	Low 95¼

For the year—High, 102½, Aug. 7; Low, 70, Feb. 26.
Last year—High, 100½; Low, 61½.

SECOND PREFERRED STOCK.

Week August 29	Sales shares	High ...	Low ...
Week September 5	Sales 500 shares	High 73	Low 70
Week September 12	Sales shares	High ...	Low ...
Week September 19	Sales 200 shares	High 68	Low 63
Week September 26	Sales 100 shares	High 63	Low 63

For the year—High, 74, Aug. 7; Low, 42, Feb. 26.
Last year—High, 78½; Low, 39.

TRADE NEWS NOTES.

THE Rubber Republic Co. (Youngstown, Ohio) issue a folder which is interesting as relating to the largest fire hose award ever made—97,000 feet for the fire department of New York. Full details are given of the tests made for this hose.

The Omaha Rubber Co. (Omaha, Nebraska) have removed into new quarters, which President E. H. Sprague states will give them nearly double their former floor capacity.

The Courtney Rubber Co., who are manufacturing a special make of tires and some mechanical goods at Plainfield, New Jersey, have established their New York offices at No. 1976 Broadway.

RUBBER FACTORY CONCESSION IN MEXICO.

S. P. APPLEWHITE was mentioned in THE INDIA RUBBER WORLD some time ago as having applied to the government of Mexico for a concession to establish in that country a factory for pneumatic and other rubber goods. The Mexican secretary of fomento advises us: "It is a fact that Señor Applewhite has a contract with this department for establishing in this republic a factory for rubber goods, excepting toys. He must submit plans for said factory for approval in November next."

TRADE NEWS NOTES.

THE National Insulite Co. (Aurora, Illinois), the incorporation of which was reported in these columns last month, announce two products—"Insulite," for insulation generally, and "Ebonite," rust, acid, alkali, and weather proofing. Correspondence with the company is signed by A. H. Mikesell, one of the incorporators already mentioned.

The new rubber assistant Vulcole, described in THE INDIA RUBBER WORLD September 1 (page 418), is put up in gallon cans, the price being \$1.10 per pound.

Mr. George E. Austin, general manager of Imperial Rubber Co. (New York), left on September 3 for an extended trip through the United States, as far as Los Angeles and San Francisco, and return via Vancouver and the leading cities in Canada.

The Lovell Manufacturing Co. (Erie, Pennsylvania), extensive makers of clothes wringers for the home and export trade, have a rubber department for producing the rolls required, with a capacity for supplying 2,000 wringers daily.

The Continental Caoutchouc Co. (New York) are opening an agency for their tires at Los Angeles, California, in charge of E. L. De Camp.

The Empire Automobile Tire Co. (Trenton, New Jersey) have placed their agency at Cleveland, Ohio, with Mr. E. T. Horsey, who formerly handled "Continental" tires. Mr. Horsey will cover the greater part of Ohio for the Empire company.

The Ajax-Grieb Rubber Co. (Trenton, New Jersey) have opened a branch in Philadelphia, at No. 316 North Broad street, in charge of Joseph Keir, and one in Kansas City, Missouri, at No. 1422 Grand avenue, under the management of Enoch Graf.

The Palmer-Hawkins Rubber Tire Co. (Akron, Ohio), the incorporation of which has been noted in these columns, has for its object primarily the manufacture of the new tire invented by Mr. H. A. Palmer, illustrated in THE INDIA RUBBER WORLD September 1, 1908, (page 411). Mr. Palmer is president and general manager, and A. W. Hawkins secretary and treasurer.

The Calmon Asbestos and Rubber Works of America, the incorporation of which has been recorded already in THE INDIA RUBBER WORLD, and of which Mr. Edward H. Garcin is president, have established offices on the second floor of Nos. 100-102 Reade street, New York.

"Continental" tires were the equipment on the Fiat Cyclone, which lowered the world's record for a circular track, making one mile in 51 seconds, flat, at St. Paul, on September 5.

PERSONAL MENTION.

MR. WILLIAM W. HANDLEY, of the United States consular service, sailed from New York on September 19 to succeed Mr. James A. Smith, for some time past consul-general to the Congo Free State, with headquarters at Boma, who has been transferred to a larger post. As a Belgian colony the Congo Free State will doubtless have another designation in future, but the American consular post in that territory will continue to be maintained.

Mr. Benjamin H. Ridgely, United States consul-general for some time past at Barcelona, Spain, has been promoted to be consul-general at Mexico City. Mr. Ridgely has been in this service since 1885, successively at Geneva, Nantes, and Malaga, before reaching Barcelona, and became eventually one of the

most experienced and competent members of the service. It is interesting to notice that the first word from him in his new post, in the *Daily Consular and Trade Reports*, relates to rubber conditions in Mexico.

Major J. Orton Kerbey, who attended the Brazilian national exhibition at Rio as a representative of the International Bureau of American Republics, was a visitor to the offices of THE INDIA RUBBER WORLD, as this issue was going to press, on his return to Washington. He visited Pará and Manãos on his way to Rio, renewing his acquaintances on the Amazon formed during the period that he held the post of United States consul at Pará.

THE SEA ISLAND COTTON CROP.

IT appears that the yield of Sea Island cotton for the season 1907-08, though smaller than the average, exceeded by nearly 50 per cent. the crop of 1906-07. Messrs. John Malloch & Co., Savannah, Georgia, estimate as follows:

	1902-03.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.
Bales	105,955	76,414	102,191	123,789	58,932	85,024

Reports on the new crop (1908-09) indicate an early harvest and a fair sized crop. So far as indicated, the grade of this crop is excellent. Malloch's quotations September 26 were: Georgias—Extra fine 15 cents; choice 17; extra choice 17½; fancy 19½. Floridas—Choice 17; extra choice 17½; fancy 20; fancy east 20@21.

NEW RUBBER GOODS.

"KANTCHOKE" SEAMLESS NIPPLE.

THE shape of the seamless "Kantchoke" nipple is such that when mounted on a nursing bottle it will not collapse, and it therefore carries with it all the strong points of the so-called non-collapsible nipples on the market, without the objectionable feature of a physical construction on the inside or the valve arrangement, either of which affords good lodging



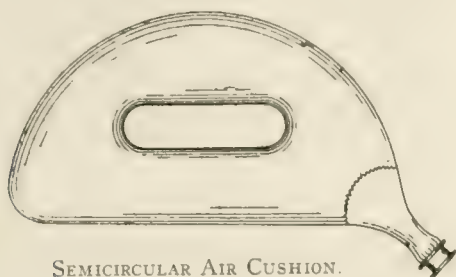
"KANTCHOKE" SEAMLESS NIPPLE.

place for disease germs. Being perfectly smooth on the inside, the "Kantchoke" is necessarily more cleanly and more sanitary. The nipple clings to the neck of the bottle in such manner that there is no danger of its pulling off while in use. It is made from a high grade of non-blooming stock, in three colors—white, black, and maroon. It has met with much favor wherever introduced. [The Faultless Rubber Co., Ashland, Ohio.]

SEMICIRCULAR AIR CUSHION.

THE right to manufacture a specially formed cushion of this description has been acquired by Metzler & Co., of Munich, Bavaria, under the German registered design patent No. 335,240. The peculiar form, and the novel arrangement of the aperture, insures the secure and quiet position of arm, leg or foot after operations. Attempts to devise a suitable support for the above named limbs, and especially, after operations, for the female breast, are as old as surgery itself. Hitherto it has been neces-

sary to remain content with the familiar round and square air cushions, which, however, as supports after an operation are apt to prove directly injurious, for the round cushions, if only slightly inflated—and they must not be blown up hard—because in such case the support would not be soft enough—yield to the



SEMICIRCULAR AIR CUSHION.

least movement of the part supported and thereby make quiet, safe and painless repose impossible. This disadvantage is claimed to be remedied by the new cushion. The parts in question are placed in the elongated oval aperture of the cushion and there find, not only an absolutely safe and secure rest, but also an agreeably soft support, that cannot be displaced.

THE NEW "MELBA" HEEL.

If the young women of to-day are bound to wear shoes with six-story heels, it is incumbent upon the rubber manufacturers to make rubbers to fit the heels. Evidently that is the idea the



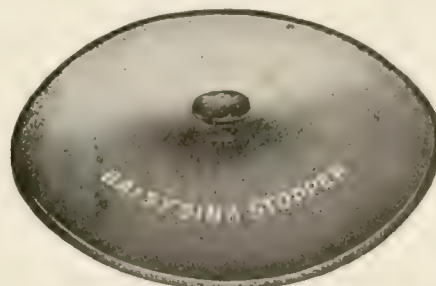
THE NEW "MELBA" RUBBER.

Wales-Goodyear company take of the matter, because their new "Melba" shoe, recently put on the market, has probably the highest heel yet. It is higher than the Cuban heel and has a narrower toe than the Cuban last. The Wales-Goodyear company are still making large quantities of the Cuban heel, which is by no means displaced by the new "Melba" last, but the Cuban heel is not quite high enough for the extreme height of heel that is

being affected now-a-days; hence the addition of the "Melba" last.

"DAISY" SINK STOPPER.

THIS is a recently patented article which has been very favorably received in the retail trade. It can be placed over the sieve or screen in a sink and close the perforations so that the sink



"DAISY" SINK STOPPER.

can be fitted with water for any household purpose. They are all rubber—no metal—with very thin edges. They are boxed by the dozen and retail at 15 to 25 cents. [Elkhart Rubber Works, Elkhart, Indiana.]

THIS is an age when comfort is at a premium. Rubber tires mean comfort. The commercial truck makers cannot get tires too good, and they are willing to put down the price for what they want. The automobile builders ask no questions as to prices, but they want quality. The rubber tire makers have earned the prosperity they are enjoying, and their industry is one which must grow and prosper with increasing desire for luxury, to say nothing of necessity.—*The Hub (New York)*.

E. T. TROTTER & Co. (Brooklyn, New York) are sending to their friends in the trade an attractive booklet of "Views of America," with incidental advertising of their business in insulating materials for electric wires and cables; also, rubber substitutes. [7½" x 5". 24 pages.]

TEXTILE Rubber Co., September 16, 1908, under the laws of New Jersey; capital authorized, \$50,000. Incorporators: Alfred W. Ireland, No. 1580 Amsterdam avenue, New York; Frank E. Sincerer, No. 241 Macon street, Brooklyn, N. Y.; Ida Thatcher, East Orange, N. J.

THE Mitzel Rubber Co. (Carrollton, Ohio), have been discharged from bankruptcy, their indebtedness having been cared for by an issue of bonds for \$54,000.

Review of the Crude Rubber Market.

THE present New York market shows a considerable advance for spot lots for nearby delivery for October, prices ranging from \$1.02 to \$1.07. The English market is firm, with an upward tendency, and that of Manãos strong and advancing. This appears to be a legitimate advance, based on supply and demand, there being practically no rubber in first hands in New York to-day. An active request continues from tire manufacturers, and every indication points to an upward market. Africans are hardly in sympathy with the general strength, though the last Antwerp sale advanced about 3½ cents a pound.

Arrivals at Pará during September, up to and including Monday, the 28th, were: Islands, 785 tons; Upriver, 1090; Caucho, 220; total, 2095 tons. Compared with former crop years the Pará receipts since July 1 have been as follows:

	1905.	1906.	1907.	1908.
July	1450	1840	1370	1300
August	1300	1690	1500	1890
September	2200	2070	2410	2095
Total	4950	5600	5280	5285
[Average for first three months 10 years, 4570 tons.]				

Following are the quotations of New York for Pará grades one year ago, one month ago, and September 29—the current date:

PARA.	Oct. 1, '07.	Sept. 1, '08.	Sept. 29.
Islands, fine, new.....	99@100	89 ^a /a 90	94@ 95
Islands, fine, old	none here	none here	none here
Upriver, fine, new	106@107	95@ 96	102 ^a /a 103
Upriver, fine, old	110@112	98 ^a /a 100	106 ^a /a 107
Island, coarse, new.....	59@ 60	43 ^a /a 44	46@ 47
Islands, coarse, old	none here	none here	none here
Upriver, coarse, new	88@ 89	68@ 69	72@ 73
Upriver, coarse, old	none here	69@ 70	74 ^a /a 75
Cametã, coarse .....	.....	51 ^a /a 52	52 ^a /a 53
Caucho (Peruvian), sheet..	69@ 70	50 ^a /a 51	53@ 54
Caucho (Peruvian), ball...	85@ 86	61@ 62	63@ 64
Ceylon (plantation), fine sheet	129 ^a /a 130	103 ^a /a 104	105 ^a /a 106

AFRICAN.

Sierra Leone, 1st quality	82@83
Lopori ball, prime.....	82@83

Massai, red	82@83	Lopori strip, prime....	68@70
Benguella	45@40	Madagascar, pinky	67@68
Acera flake	18@19	Ikelemba	none here
Cameroon ball	50@51	Soudan niggers	58@50

CENTRALS.

Esmerelda sausage	61@62	Mexican, scrap	58@59
Guayaquil, strip	40@47	Mexican, slab	42@43
Nicaragua, scrap	59@60	Mangabeira, sheet	43@44
Panama	46@47	Guayule	29@30

EAST INDIAN.

Assam	75@76	Borneo	27@34
Late Pará cables quote:			

Per Kilo.

Per Kilo.

Islands, fine	4\$600	Upriver, fine	5\$450
Islands, coarse	2000	Upriver, coarse	3\$450
		Exchange	15 7/32d.

Latest Manãos advices:

Upriver, fine	5\$600	Exchange	15 3/16d.
Upriver, coarse	3\$600		

NEW YORK RUBBER PRICES FOR AUGUST (NEW RUBBER).

	1908.	1907.	1906.
Upriver, fine	80@.66	1.08@1.15	1.32@1.24
Upriver, coarse .....	.65@.69	.80@.92	.90@1.02
Islands, fine	83@.90	1.04@1.09	1.18@1.20
Islands, coarse	43@.46	.60@.62	.65@.67
Cameta	51@.53	.66@.69	.68@.70

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total 1908.	Total 1907.	Total 1906.
Stocks, July 31.....	198	88 =	286	290	147
Arrivals, August	520	296 =	816	487	723
Aggregating	718	384 =	1102	777	870
Deliveries, August.....	632	341 =	973	240	777
Stocks, August 31.....	86	43 =	129	240	93

PARA.

ENGLAND.

	1908.	1907.	1906.	1908.	1907.	1906.
Stocks, July 31.....	250	165	376	200	675	790
Arrivals, August	1490	1380	1565	1150	450	460
Aggregating	1740	1545	1941	1350	1125	1250
Deliveries, August	1435	1255	1491	975	500	550
Stocks, August 31.....	305	290	450	375	625	700

	1908.	1907.	1906.
World's visible supply, August 31.....	1655	1792	1876
Pará receipts, July 1 to August 31.....	2570	2470	2865
Pará receipts of Caucho, same dates.....	000	460	485
Afloat from Pará to United States, Aug. 31	438	124	218
Afloat from Pará to Europe, August 31....	417	513	415

London

SEPTEMBER 4.—Plantation kinds have been more inquired for than during the previous fortnight. At to-day's auctions there was a fairly good demand for most plantation sorts at about ½ penny [=1 cent] advance on last auction quotations. The highest price, 4s. 7d. [=£1.11½] was realized for very fine pale crepe from Malaya. Gikiyanakande estate (Ceylon) very fine pale worm fetched 4s. 6d. [=£1.09½]. Hard fine Pará (from Brazil) sold as high as 4s. 0¾d. [=98½ cents]. One year ago the highest quotation for plantation was 5s. 7¾d. [=£1.37½] and for Brazilian Pará 4s. 6½d. [=£1.10½]. Decline in plantation during the year, 19 per cent.; decline in Pará, about 10 per cent.

Rubber Receipts at Manaos.

DURING July and two months of the crop season for three years [courtesy of Messrs. Scholz & Co.] :

	JULY.			JULY-AUGUST.		
From	1908.	1907.	1906.	1908.	1907.	1906.
Rio Purús-Acre.....	498	443	364	704	708	785
Rio Madeira	299	300	268	591	482	584
Rio Jurua.....	97	90	129	149	122	155
Rio Javary Iquitos....	241	269	126	249	248	149
Rio Solimoes.....	39	62	47	50	73	62
Total	1,174	1,164	934	1,743	1,633	1,735
Caucho	280	232	94	423	333	237
Total	1,454	1,396	1,028	2,166	1,966	1,972

New York

In regard to the financial situation Albert B. Beers, broker in crude rubber and commercial paper, No. 68 William street, New York, advises:

"During September the general money market conditions have changed but little from the position of the past three months, and there has continued a fair demand for rubber paper at 4½@5 per cent. for the best names and 5½@6 per cent. for those not so well known. While rates may not change materially for the next month or two, the demand is likely to fall off somewhat, as usual, at this time of year."

Antwerp.

ANTWERP RUBBER STATISTICS FOR AUGUST.

DETAILS.	1908.	1907.	1906.	1905.	1904.
Stocks, July 31.....	695,551	931,356	531,441	819,559	872,746
Arrivals, in August....	640,712	309,667	578,122	509,389	244,704
Congo sorts.....	522,847	232,522	438,005	375,263	221,665
Other sorts.....	117,865	77,145	140,117	134,126	23,039
Aggregating	1,336,263	1,241,023	1,109,563	1,328,948	1,117,450
Sales in August.....	461,749	500,509	422,696	770,746	514,955
Stocks, August 31....	874,514	740,514	686,867	558,202	602,295
Arrivals since Jan. 1.	3,473,739	3,591,495	3,933,727	3,719,673	3,709,621
Congo sorts	2,953,211	2,986,244	2,998,843	2,911,293	3,069,256
Other sorts	520,528	515,221	934,884	808,380	640,365
Sales since Jan. 1....	3,606,119	3,419,135	3,982,047	3,702,832	3,718,026

Liverpool.

EDMUND SCHLUTER & Co. report [August 31]:

Pará Rubber.—The market during August was moderately active. The outstanding feature has been the scarcity of available supplies of fine rubber, and with the continued demand from the United States, prices have advanced at the close. Prospects at present are in favor of no considerable fluctuations. The arrivals from Brazil at the consuming markets during September are an approximately known and not very large quantity, and the value of Pará rubber in warehouse is therefore likely to be maintained, or again slightly advanced. On the other hand, the actual arrivals in Brazil this month and next may make themselves felt and expressed during the second half of the month in an easy tendency for the more distant deliveries.

THE WORLD'S VISIBLE SUPPLY OF PARA, AUGUST 31.

	1908.	1907.	1906.	1905.	1904.	1903.
Tons	3340	2691	2448	1866	1402	1976
Prices hard fine 4/0½	4/7	5/2	5/7	5/-	4/3	

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

SEPTEMBER 8.—By the steamer <i>Maranhense</i> , from Manãos and Pará:					
IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.
General Rubber Co.....	101,500	18,800	142,100	.....	262,400
Poel & Arnold	44,100	16,600	98,000	28,400	187,100
New York Commercial Co.	48,300	8,900	45,500	30,400	133,100
Hagemeyer & Brunn	54,000	.....	71,300	.....	125,300
A. T. Morse & Co.....	14,300	4,600	63,200	.....	82,100
C. P. dos Santos.....	14,700	5,000	47,000	4,300	71,000
Edmund Reeks & Co.....	17,100	.....	52,200	.....	69,300
TOTAL	294,000	53,900	519,300	63,100	930,300
SEPTEMBER 22.—By the steamer <i>Dominic</i> , from Manãos and Pará:					
General Rubber Co.....	185,500	30,300	163,600	5,900	394,300
A. T. Morse & Co.....	159,700	66,200	43,600	3,300	272,800
New York Commercial Co.	97,700	18,000	23,300	29,300	168,300
Poel & Arnold	117,400	12,800	22,500	10,500	163,200
Hagemeyer & Brunn	68,200	3,600	59,400	.....	131,200
C. P. dos Santos.....	45,400	3,500	31,500	.....	80,400
Edmund Reeks & Co.....	7,100	1,400	23,100	.....	31,600
TOTAL	681,000	144,800	367,000	49,000	1,241,800

PARA RUBBER VIA EUROPE.

POUNDS.

Aug. 26.—By the <i>President Grant</i> —Hamburg:		
New York Commercial Co. (Fine)	13,000	
W. L. Gough Co., (Fine)....	10,000	23,000
Aug. 27.—By the <i>Carmania</i> —Liverpool:		
General Rubber Co. (Fine)....	45,000	
New York Commercial Co. (Fine)	27,000	
A. T. Morse & Co. (Fine).....	19,000	
Poel & Arnold (Coarse).....	11,500	102,500
Aug. 28.—By the <i>Mouretania</i> —Liverpool:		
New York Commercial Co. (Fine)	65,000	
General Rubber Co. (Fine)....	21,000	
C. P. dos Santos (Coarse).....	17,000	
Robinson & Co. (Fine).....	4,500	107,500
Aug. 29.—By the <i>Baltic</i> —Liverpool:		
A. T. Morse & Co. (Caucho).....		65,000
SEPT. 1.—By the <i>Maracaibo</i> —La Guayra:		
General Export and Commercial Co. (Fine)	33,500	
General Export and Commercial Co. (Coarse)	11,000	44,500

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it DOES NOT BLOW UNDER CURE.

WRITE FOR PRICES.

Massachusetts Chemical Co., Walpole, Mass.

*See "RUBBER WORLD" RUBBER WORKS
VALPOLL VARNISH WORKS
ELECTRIC LAMP LABORATORY*

WE ARE OFFERING SCRAP RUBBER AT LOW PRICES



Theodore Hofeller & Company
BUFFALO, N. Y.



WE SOLICIT YOUR INQUIRIES

INSULATED WIRE MANUFACTURERS

OUR FINISHING WAXES STAND "ALL TESTS," THEY ARE
ABSOLUTELY THE ONLY WAXES OFFERED FOR SALE THAT DO

AMERICAN WAX COMPANY

EUROPEAN AND DOMESTIC INQUIRIES SOLICITED

BOSTON, MASSACHUSETTS, U. S. A.

HYDRO-CARBON

That's acknowledged Best—because it Tests 99+% Purity! Amalgamates perfectly in vulcanizing process. Retains its flexibility at zero weather. Have you seen samples?

AMERICAN WAX CO. : Boston, Mass.

SEPT. 4.—By the *Pennsylvania*=Hamburg:
New York Commercial Co. (Fine)..... 10,000
SEPT. 4.—By the *Cedric*=Liverpool:
Poel & Arnold (Fine)..... 47,000
Poel & Arnold (Coarse)..... 14,000 31,000
SEPT. 5. By the *Lucania*=Liverpool:
General Rubber Co. (Fine)..... 30,000
New York Commercial Co.
(Caucho) 11,000 41,000
SEPT. 5. By the *Umbria*=Liverpool:
Poel & Arnold (Fine)..... 110,000
Poel & Arnold (Coarse)..... 5,500 181,500
New York Commercial Co. (Fine)
SEPT. 10. By the *Carania*=Liverpool:
Poel & Arnold (Fine) 22,500
SEPT. 11.—By the *Advance*=Mollendo:
W. R. Grace & Co. (Caucho)..... 22,500
SEPT. 11.—By the *Lucania*=Liverpool:
New York Commercial Co. (Fine)..... 11,500
SEPT. 12.—By the *Victoria*=Hamburg:
New York Commercial Co. (Fine).... 11,500
SEPT. 16.—By the *Oceanic*=Havre:
A. T. Morse & Co. (Fine)..... 27,000
SEPT. 17.—By the *Etruria*=Liverpool:
Poel & Arnold (Fine)..... 30,000

New York Commercial Co. (Fine) 11,000
Muller, Schall & Co. (Coarse)... 2,500 43,500
SEPT. 18.—By the *Orinoco*=Mollendo:
New York Commercial Co. (Fine)..... 3,500
SEPT. 18.—By the *Pretoria*=Hamburg:
Poel & Arnold (Coarse)..... 24,000

OTHER NEW YORK ARRIVALS.

CENTRALS.

Aug. 26.—By the *Joachim*=Colon:
Hinzl, Feltmann & Co..... 6,000
A. M. Capen's Sons..... 5,000
G. Amsinck & Co..... 3,500
Mecke & Co..... 3,500
A. Santos & Co..... 1,500 19,500
Aug. 28.—By the *Guyana*=Pernambuco:
A. D. Hitch & Co..... 5,000
Aug. 29.—By the *Seguranca*=Vera Cruz:
Kreamer & Forster 5,000
American Trading Co..... 1,000 6,000
Aug. 31.—By the *Esperanza*=Colon:
L. Johnson & Co..... 7,000
A. Santos & Co..... 4,000
Hirzel, Feltmann Co..... 3,500

G. Amsinck & Co..... 3,000
Isaac Brandon & Bros..... 2,000
Demarest Bros. Co..... 2,000
West Coast Rubber Co..... 1,500
A. N. Rotholz 1,000 24,000
SEPT. 2. By the *El Dia*=Galveston:
Continental-Mexican Rubber Co..... *27,500
SEPT. 13.—By the *Magdalena*=Columbia:
G. Amsinck & Co..... 3,000
American Trading Co..... 1,500 4,500
SEPT. 4.—By the *Cienfuegos*=Tampico:
New York Commercial Co..... *55,000
Edward Maurer *35,000
Poel & Arnold *7,000
American Trading Co..... *1,500 *98,500
SEPT. 5. By the *Colon*=Colon:
New York Commercial Co..... 5,500
Simons, Elias & Abdad..... 2,000 7,500
SEPT. 5.—By the *Merida*=Frontera:
General Export & Commercial Co. 2,000
Harburger & Stack 1,000
H. Marquardt & Co..... 1,000
E. Steiger & Co..... 1,000 5,000
SEPT. 5.—By the *Bayam*=Tampico:
Edward Maurer *20,000
Poel & Arnold *34,000 *104,000

GUAYULE

WHEN PROPERLY CURED AND MIXED WITH OTHER COMPOUNDS
IS THE CHEAPEST RUBBER ON THE MARKET

**There is As Much Difference Between the Various Brands of Guayule
as Between Fine Para and Shoddy**

Guayule made from old, sun exposed shrub is **dead, dirty and sticky**, and no amount of washing will make it clean, while rubber made from freshly cut, selected shrub, has **life, low percentage of resin and is practically clean.**



has been on the market for several years and is known to be the best Guayule made as to life, strength, purity and low percentage of resin.

There is a large demand for a specially prepared Guayule, dry and ready for use, which we have met in



As this rubber is made exclusively from our high grade "Parra" Guayule, uniformity and absolute purity is guaranteed. No mixing in of cheap compounds to bring down the price. Durango rubber is nothing but Parra brand pure Guayule prepared so that anybody can use it.

**CONTRACTS MADE FOR REGULAR MONTHLY
OR WEEKLY DELIVERIES**

For Samples and Quotations apply to

ED. MAURER

97 Water St., NEW YORK

**Sole Representative of the MADERO interests in Mexico,
largest owners of Guayule**

SEPT. 8.—By the <i>Foxtale</i> —Bahia:		
Poel & Arnold.....	34,000	
J. H. Rossback & Bros.....	15,000	49,000
SEPT. 8.—By the <i>Crown Prince</i> —Bahia:		
Poel & Arnold.....	33,000	
J. H. Rossback & Bros.....	16,000	
A. Hirsch & Co.....	6,000	55,000
SEPT. 8.—By <i>El Alba</i> —Galveston:		
Continental Mexican Rubber Co.....	65,000	
Edward Maurer.....	22,500	*87,500
SEPT. 9.—By the <i>Prins August</i> —Colon:		
G. Amsinck & Co.....	5,000	
A. N. Rotholz.....	1,000	
H. Marquardt & Co.....	1,000	7,000
SEPT. 10.—By <i>El Norte</i> —Galveston:		
Continental Mexican Rubber Co.....	27,500	*27,500
SEPT. 11.—By the <i>Advance</i> —Colon:		
New York Commercial Co.....	10,000	
G. Amsinck & Co.....	3,000	
Eggers & Hemlein.....	2,500	
Horace Coleman.....	1,500	
Jose Julia & Co.....	2,000	
Bartling & De Leon.....	1,000	20,000
SEPT. 12.—By the <i>Morro Castle</i> —Frontera:		
Harburger & Stack.....	2,000	
H. Marquardt & Co.....	2,000	
General Export & Commercial Co.....	2,000	
J. W. Wilson & Co.....	1,000	7,000
SEPT. 13.—By <i>El Cid</i> —Galveston:		
Continental Mexican Rubber Co.....	27,500	*27,500
SEPT. 14.—By the <i>Zeland</i> —Antwerp:		
New York Commercial Co.....	55,000	*55,000
SEPT. 18.—By the <i>Alhama</i> —Colon:		
Fidangu Bros. Co.....	3,000	
G. Amsinck & Co.....	2,000	
Hirzel, Feltmann & Co.....	2,000	
Piza, Nephews & Co.....	1,500	
Eggers & Hemlein.....	1,500	1,500
Kunhardt & Co.....	1,000	
SEPT. 18.—By the <i>Afghan Prince</i> —Bahia:		
Poel & Arnold.....	45,000	
SEPT. 21.—By the <i>Finance</i> —Colon:		
G. Amsinck & Co.....	7,500	
Roldan & Van Sickle.....	2,500	
Hirzel, Feltmann & Co.....	2,500	
Suzarte & Whitney.....	2,000	
H. Marquardt & Co.....	1,500	
Mexican Products Co.....	1,000	
Demarest Bros. & Co.....	1,000	
A. M. Capen's Sons.....	1,000	
A. Rosenthal Sons.....	1,000	20,000
SEPT. 22.—By <i>El Dia</i> —Galveston:		
Continental Mexican Rubber Co.....	55,000	*55,000
SEPT. 22.—By the <i>Tennyson</i> —Bahia:		
Poel & Arnold.....	45,000	
A. Hirsch & Co.....	9,000	54,000

*This sign, in connection with imports of Centrals, denotes Guayule rubber.

AFRICANS.

POUNDS.

Aug. 26.—By the <i>President Grant</i> —Hamburg:		
General Rubber Co.....	16,500	
Muller, Schall & Co.....	18,500	
George A. Alden & Co.....	4,500	39,500
Aug. 28.—By the <i>Baltic</i> —Liverpool:		
General Rubber Co.....	112,000	
SEPT. 1.—By the <i>Vaderland</i> —Antwerp:		
A. T. Morse & Co.....	67,000	
W. L. Gough Co.....	11,000	78,000
SEPT. 4.—By the <i>Pennsylvania</i> —Hamburg:		
W. L. Gough Co.....	11,500	
Robinson & Co.....	2,500	
Rubber Trading Co.....	4,500	
George A. Alden & Co.....	7,000	25,500
SEPT. 5.—By the <i>Lucania</i> —Liverpool:		
General Rubber Co.....	11,000	
George A. Alden & Co.....	8,500	
Livesey & Co.....	2,500	22,000
SEPT. 5.—By the <i>Umbria</i> —Liverpool:		
General Rubber Co.....	34,000	
A. T. Morse & Co.....	10,000	
Muller, Schall & Co.....	3,500	47,500

SEPT. 8.—By the <i>Finland</i> —Antwerp:		
George A. Alden & Co.....	100,000	
Poel & Arnold.....	6,000	
A. T. Morse & Co.....	50,000	
W. L. Gough Co.....	20,000	
Joseph Cantor.....	25,000	
Robinson & Co.....	3,500	258,500
SEPT. 10.—By the <i>Carana</i> —Liverpool:		
Poel & Arnold.....	11,000	
Muller, Schall & Co.....	9,000	
General Rubber Co.....	5,500	
Joseph Cantor.....	5,500	31,000
SEPT. 11.—By the <i>Patricia</i> —Hamburg:		
A. T. Morse & Co.....	33,500	
General Rubber Co.....	30,000	
Rubber Trading Co.....	6,500	
Poel & Arnold.....	2,500	72,500
SEPT. 12.—By the <i>St. Louis</i> —Havre:		
General Rubber Co.....	25,000	
SEPT. 14.—By the <i>Dunally</i> —Lisbon:		
A. T. Morse & Co.....	11,500	
SEPT. 14.—By the <i>Louisiana</i> —Bordeaux:		
Livesey & Co.....	9,000	
W. L. Gough Co.....	3,500	12,500
SEPT. 16.—By the <i>Oceanic</i> —Havre:		
General Rubber Co.....	16,500	
SEPT. 17.—By the <i>Etruria</i> —Liverpool:		
Poel & Arnold.....	3,500	
A. T. Morse & Co.....	5,500	9,000
SEPT. 17.—By the <i>Hudson</i> —Havre:		
Poel & Arnold.....	34,500	
A. T. Morse & Co.....	22,500	
C. P. dos Santos.....	5,000	
George A. Alden & Co.....	4,500	65,500
SEPT. 18.—By the <i>Pretoria</i> —Hamburg:		
A. T. Morse & Co.....	22,500	
George A. Alden & Co.....	11,500	
Muller, Schall & Co.....	11,500	45,500
SEPT. 19.—By the <i>Deutschland</i> —Hamburg:		
W. L. Gough Co.....	10,000	
SEPT. 22.—By the <i>Minneapolis</i> —London:		
W. L. Gough Co.....	4,500	

EAST INDIAN.

POUNDS.

Aug. 26.—By the <i>President Grant</i> —Hamburg:		
Heabler & Co.....	6,500	
Aug. 29.—By the <i>Katuna</i> —Colombo:		
A. T. Morse & Co.....	11,500	
Poel & Arnold.....	2,000	*13,500
Aug. 31.—By the <i>Perona</i> —Singapore:		
George A. Alden & Co.....	15,000	
SEPT. 1.—By the <i>Minnetonka</i> —London:		
Rubber Trading Co.....	5,000	
Robinson & Co.....	3,500	8,500
SEPT. 3.—By the <i>Oceana</i> —Singapore:		
Poel & Arnold.....	20,000	
George A. Alden & Co.....	11,000	
Heabler & Co.....	10,000	41,000
SEPT. 8.—By the <i>New York</i> —London:		
Poel & Arnold.....	11,500	
A. T. Morse & Co.....	10,000	*21,500
SEPT. 8.—By the <i>Finland</i> —Antwerp:		
Poel & Arnold.....	4,000	*4,000
SEPT. 9.—By the <i>Mesaba</i> —London:		
A. T. Morse & Co.....	15,000	
General Rubber Co.....	10,000	*25,000
SEPT. 12.—By the <i>St. Louis</i> —London:		
Poel & Arnold.....	11,000	*11,000
SEPT. 15.—By the <i>Minnehaha</i> —London:		
General Rubber Co.....	7,000	
Robinson & Co.....	7,000	14,000
SEPT. 16.—By the <i>Oceanic</i> —London:		
Poel & Arnold.....	4,500	
SEPT. 17.—By the <i>Kaloma</i> —Colombo:		
A. T. Morse & Co.....	22,500	
SEPT. 19.—By the <i>St. George</i> —Singapore:		
Otto Isenstein & Co.....	9,000	
SEPT. 21.—By the <i>Philadelphia</i> —London:		
A. T. Morse & Co.....	9,000	
Poel & Arnold.....	5,000	*14,000

SEPT. 22.—By the <i>Minneapolis</i> —London:		
A. T. Morse & Co.....	13,500	
General Rubber Co.....	7,000	
General Rubber Co.....	9,000	29,500

*Denotes plantation rubber.

GUTTA-JELUTONG.

Aug. 31.—By the <i>Perona</i> —Singapore:		
Heabler & Co.....	155,000	
M. N. Joachimson.....	110,000	
Poel & Arnold.....	55,000	
W. L. Gough Co.....	55,000	375,000
SEPT. 1.—By the <i>Minnetonka</i> —London:		
Heabler & Co.....	20,000	
SEPT. 3.—By the <i>Oceana</i> —Singapore:		
Poel & Arnold.....	220,000	
Heabler & Co.....	175,000	
L. C. Hopkins Co.....	110,000	
George A. Alden & Co.....	22,000	527,000
SEPT. 4.—By the <i>Cedric</i> —Liverpool:		
W. L. Gough Co.....	130,000	
George A. Alden & Co.....	55,000	185,000
SEPT. 17.—By the <i>St. George</i> —Singapore:		
Poel & Arnold.....	220,000	
Vinter & Smithie.....	70,000	
L. C. Hopkins Co.....	100,000	390,000

GUTTA PERCHA.

POUNDS.

SEPT. 1.—By the <i>Minnetonka</i> —London:		
George A. Alden & Co.....	22,500	
W. L. Gough Co.....	22,500	45,000
SEPT. 18.—By the <i>Pretoria</i> —Hamburg:		
Robert Soltau & Co.....	8,000	

BALATA.

Aug. 26.—By the <i>Ganana</i> —Demerara:		
George A. Alden & Co.....	10,000	
SEPT. 1.—By the <i>Maracaibo</i> —La Guayra:		
Kunhardt & Co.....	28,000	
G. Amsinck & Co.....	22,500	
General Export & Commercial Co.....	23,000	
American Trading Co.....	3,500	77,000
SEPT. 5.—By the <i>Prins Willem</i> —Paramaribo:		
Frame & Co.....	6,500	
George A. Alden & Co.....	2,500	
Gillespie Bros.....	2,500	11,500
SEPT. 8.—By the <i>Saracaca</i> —Demerara:		
Middleton & Co.....	16,000	
George A. Alden & Co.....	11,500	27,500
SEPT. 8.—By the <i>Korona</i> —Demerara:		
George A. Alden & Co.....	12,500	
Middleton & Co.....	10,000	22,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK, AUGUST.

Imports:	Pounds.	Value.
India-rubber.....	3,578,322	\$2,102,970
Balata.....	80,045	30,064
Gutta-percha.....	9,286	6,135
Gutta-jelutong (Pontianak).....	1,300,009	33,678
Total.....	4,967,662	\$2,178,877
Exports:	Pounds.	Value.
India-rubber.....	81,914	\$54,438
Reclaimed rubber.....	2,262	260
Rubber scrap imported.....	467,956	34,248

BOSTON ARRIVALS.

Aug. 10.—By the <i>Belgravia</i> —Hamburg:		
George A. Alden & Co., Africans.....	5,500	
Poel & Arnold, Africans.....	4,500	
W. L. Gough Co., Africans.....	3,426	13,426
Aug. 20.—By the <i>Saxonia</i> —Liverpool:		
Poel & Arnold, Africans.....	7,000	
Aug. 18.—By the <i>Ghazal</i> —Singapore:		
W. L. Gough Co., Gutta-jelutong.....	50,835	
Total.....	77,261	

PARA EXPORTS OF INDIA-RUBBER, AUGUST, 1908 (IN KILOGRAMS).

NEW YORK.

EXPORTERS.	Fine.	Medium.	Coarse.	Cauchio.	TOTAL.
Schrader, Gruner & Co.....	22,950	8,330	80,520	14,190	125,990
Gordon & Co.....	66,130	9,860	98,010	.....	174,000
J. Marques & Co.....	16,490	2,720	54,120	.....	73,330
Adelbert H. Alden.....	6,800	3,630	35,630	4,920	50,290
E. Pinto Alves & Co.....	21,420	.....	49,530	.....	70,950
Pires, Teixeira & Co.....	12,750	.....	17,490	.....	30,240
Scholz, Hartje & Co.....	170	170	38,280	.....	38,620
De Lagotellerie & Co.....	2,380	1,700	43,890	.....	47,970
R. Suarez & Co.....	.....	.....	.....	.....	12,610
R. O. Ahlens & Co.....	.....	.....	.....	.....	10,436
Sundries.....	.....	.....	.....	.....	100
Itacatiara, direct.....	.....	.....	.....	.....	2,132
Mandios, direct.....	115,470	12,182	39,491	16,225	203,368
Liquitos, direct.....	.....	.....	.....	.....	4,583
Total, August.....	264,560	58,192	453,971	35,935	811,758
Total, July.....	303,405	77,885	343,954	109,439	834,743

EUROPE.

	Fine.	Medium.	Coarse.	Cauchio.	TOTAL.	TOTAL.
.....	31,450	3,910	2,970	23,492	61,822	187,812
.....	26,860	6,800	.....	330	33,990	207,000
.....	28,560	3,570	5,280	.....	37,410	110,741
.....	28,220	3,570	10,560	13,200	55,550	105,840
.....	29,750	.....	7,020	.....	37,670	105,620
.....	13,600	.....	9,000	.....	23,500	53,740
.....	.....	.....	11,880	.....	11,880	50,500
.....	.....	.....	.....	.....	.....	47,970
.....	.....	.....	4,301	2,630	10,500	10,550
.....	.....	.....	.....	.....	10,436	10,436
.....	.....	.....	.....	.....	100	100
.....	.....	.....	2,132	1,740	7,114	7,114
.....	45,881	17,371	73,243	449,941	653,309	653,309
.....	4,583	388	2,938	246,774	254,683	254,683
Total, August.....	64,119	75,252	361,418	1,003,646	1,811,435	1,811,435



Vol. 39.

OCTOBER 1, 1908.

No. 1.

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Review of the Crude Rubber Market.....

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for car-load lots, per pound—show an advance, as compared with last month:

Old rubber boots and shoes—domestic.....	8 3/8 @ 8 1/2
Old rubber boots and shoes—foreign.....	8 @ 8 1/8
Pneumatic bicycle tires.....	6 @ 6 1/2
Automobile tires.....	6 @ 6 1/2
Solid rubber wagon and carriage tires.....	7 @ 8
White trimmed rubber.....	10 1/2 @ 11
Heavy black rubber.....	4 1/2 @ 4 3/4
Air brake hose.....	3 3/4 @ 4
Garden hose.....	2 @ 2 1/4
Fire and large hose.....	2 3/4 @ 1 5/8
Matting.....	1 1/2 @ 1 5/8

OBITUARY.

BENJAMIN F. SUTTON died on September 23 at his summer home, "Echo Park," at Lake Spofford, New Hampshire. For some time he had been so much of an invalid as to fill his



BENJAMIN FRANKLIN SUTTON.

friends with apprehension, but the end came suddenly, following a third attack of paralysis. Mr. Sutton was born about 63 years ago at Lockport, New York. At an early age he became interested in the rubber manufacture through a connection with the Perkins Manufacturing Co., which later was merged with the Duval Rubber Co. (Providence, Rhode Island). He was of inventive turn of mind and developed an atomizer

valve which was worked at a profit by the two companies named.

About 1885 Mr. Sutton became connected with a New York firm in the rubber druggists' and stationers' sundries business, which then for six years had consisted of two partners—Russell Parker and James H. Stearns. The firm then became Parker, Stearns & Sutton, which name was continued after the business was incorporated under the laws of New York state in December, 1892, with \$450,000 capital. Mr. Sutton was the inventor of the continuous flow syringe and of a number of other specialties manufactured so successfully by the company referred to. The style of the corporation was changed December 8, 1905, to Parker, Stearns & Co., owing to Mr. Sutton's wish to retire from business, and he sold his interest in the firm.

Mr. Sutton was prominent in the social life of Brooklyn for years. He was a member of the Union League Club and president of its bowling association. He was an enthusiastic yachtsman, owning the schooner yacht *Loyal*, and holding for a long time the position of commodore of the Brooklyn Yacht Club, in addition to being a member of several other organizations devoted to this sport. Mr. Sutton finally made his home in the state of New Hampshire all the year—in winter in a beautiful home which he built at Keene, and in summer at "Echo Park," already mentioned. At Lake Spofford he had as neighbors his two partners, Messrs. Parker and Stearns, both of whom owned beautiful homes there.

Mr. Sutton, in his prime, was a man of striking appearance, an athlete, and an amateur artist whose work attracted attention. The interment was from his late home, on September 25. A widow and daughter survive.

In *The India-Rubber Journal* occurs an extended notice of the marriage of Mr. Baldwin Drummond and Mrs. Marshall Field, in London, on September 3. Mr. Drummond, who is a grandson of Lord Muncaster, is one of the joint managers of the British Murac Syndicate, Limited, which has a direct relation to the rubber industry. Mr. Drummond is related to the Duke of Westminster, who is described as also a large shareholder in the murac syndicate. The bride was the widow of the son of the late Marshall Field, the wealthy Chicago merchant.

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 THE INSIDE.



INDIA RUBBER WORLD

CAOUTCHOUC
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DICHOPELS GUTTA
GUTTA-PERCHA

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TABLE OF CONTENTS ON LAST PAGE READING MATTER.

POLITICS—AND BUSINESS.

THE near approach of the American presidential election—the date is November 3—does not tempt THE INDIA RUBBER WORLD to indulge in any forecast of the result, although we do not doubt our capacity as prophets equally with most of those who are doing business in this line. The fact is that the era has gone by when “the country” was “saved” or “lost” as the result of a national election. The same people stay on the same soil, occupied in the same pursuits; the laws remain practically the same even in the event of a complete change of party control, and back of all remain the same constitution and the same flag. What need, then, of a scare, when Americans start out to discharge the periodical obligation of designating a new occupant of the White House?

There is reason for discussing business conditions in America, however, regardless of political conditions at this time. The latter we may dismiss with the general statement that the 1908 campaign has been exceptionally brief, and that the contending parties in the contest have, so far as we have been able to see, outlined no issues. No matter who may be chosen president, he has no power to make or unmake the laws of the country, and the composition of the national legislature is changed slowly and conservatively.

But what about business? Just a year ago THE INDIA RUBBER WORLD was chronicling the decision of the leading rubber manufacturers to limit production for an indefinite period to the absolute demands of trade; in other words, to invest no money in making goods for “stocking up.” We are of the opinion that the decision was wise. Suppose that a score of tire manufacturers, each maintaining a branch house in every important center between the Atlantic and Pacific, are each trying to make all the tires that the 150,000 American automobilists may require. Is it good business? Is stocking up the branch houses meeting a demand? Does the volume of manufacture involve a measure of profits?

Fortunately, we think, the bankers of the manufacturers we have reference to—and the same thing was true in other lines than tires—advised a curtailment of activity, with the result of a marked decrease, for a while, in the production of rubber goods. Likewise, less rubber used, and lower prices for rubber.

The lower prices for rubber are now ancient history, which is pretty good evidence that the rubber manufacturers have been obliged to get busy again, in order to meet a normal demand for goods which can be supplied no longer from store. All of this has happened in advance of the presidential election, for which reason we may indulge the suggestion that, no matter how the election may result on November 3, the victorious party cannot well claim credit for the revival of business that, undoubtedly, is now developing.

RUBBER PLANTING TO DATE.

THE International Rubber Exhibition held recently in London was, first of all, a notable demonstration of the success of rubber culture. It seems hardly longer ago than yesterday when intelligent business men were discussing such questions as whether rubber trees could be grown from planted seeds, whether cultivated trees would produce rubber, or whether the product of such trees could be obtained at a profit. Already these basic questions have been answered in the affirmative so effectively that conservative owners of capital now have more than a hundred millions of dollars invested in rubber culture, with the result that many hundreds of square miles of land have been covered permanently with forests of the most valuable rubber yielding species.

Simply as an achievement in creating forests, the work of the rubber planters already has proved one of the most notable results of human endeavor. But what has been accomplished is not merely interesting by reason of its novelty and its magnitude; the result promises to be of untold benefit to the world, besides yielding handsome profits to many of those whose capital has been invested in this work.

The amount of plantation rubber that has been marketed to date is well worth consideration. During

the first eight months of the current year no less than 2,618,652 pounds [=1142½ metric tons] were shipped from Ceylon and the Malay States alone—of the highest priced rubber in the world's markets. This is at the rate of 1714 tons per year. Considered from one standpoint this is not a large figure. The world's approximate total production for the fiscal year 1907-'08, according to one of the best authorities, was 66,379 tons, compared with which the Ceylon and Malaya product would figure only about 2½ per cent. It must be considered, however, how rapidly the plantation product has increased in volume, only 296 tons having come from the Far East in the first eight months of 1906, and practically nothing back of 1904. Its intrinsic value must also be taken into account, one ton of Ceylon rubber offsetting in the factory from 1½ to 5 tons of other grades; its superior selling value is no less marked.

It might be pointed out that at the same rate of increase, the output of plantation rubber from the Far East in 1910 would amount to 10,000 tons. While we doubt that this result will be reached so soon, there can be no doubt that by the time the many millions of carefully cultivated young rubber trees already planted have come "into bearing," the product of plantations will easily rank first in the matter of quantity in any list of crude rubbers.

It is not to be understood, however, that the business of rubber planting involves no unsettled problems. About all that has been settled definitely is the affirmative answering of the three questions in the opening paragraph of this article. The success attained in the Far East has related mainly to the *Hevea* species, but the details have little bearing upon the culture of other rubber yielding species; they are not even conclusive with regard to *Hevea* in other regions.

Now to confine our attention to *Hevea* alone, and in Ceylon and Malaya, the questions remain to be considered: How should the ground be prepared for planting? How close to plant? Should the ground be kept clean while the seedlings are getting a start? Should "catch crops" be planted, and if so what? When to begin tapping? What method of tapping to adopt? What form in which to send the rubber to market? We have seen that, without the final settlement of any one of these questions, much plantation rubber has been produced and sold and put to use, and much of it at a profit to all concerned. Nevertheless, the questions here suggested, and many more, are deserving of careful consideration.

It is not too much to say that the future settled practice of national rubber culture remains to be defined, and that in all probability the scientific estate manager ten years hence may regard as exceedingly crude the best work in rubber production of the present year. Hence we look forward to having occasion to devote no little space to the subject of the further

development of rubber culture, not only in the regions where the greatest success has been attained thus far, but in other regions as well.

THE TAXICAB TRUST.

THOUGH one taxicab may not run far in its appointed sphere, taxicabs on a whole are doing much to make the whole world akin. In our news pages note is made of the listing on the Paris stock exchange of the shares of the leading company, to date, in supplying New Yorkers with a taxicab service, and already Parisian "bulls" and "bears" were trading in the shares of the leading London company in the same field. It has come to the point, really, that the thrifty French investor may be interested, while he enjoys his newspaper and his morning coffee together, in learning whether it has been raining in New York. More rain, more taxicab passengers, more dividends for himself. For France is the home of the new service, and France has supplied not only the vehicles and appliances, but an important amount of capital in introducing the new conveniences elsewhere. French directors sit on the boards of the corporations which collect taxicab fares in New York as well as in London and most other important English cities.

If the politicians hear of this they may decide that they have another peg on which to hang an argument against "trusts," but this will avail little if the public should happen to vote the taxicab a good innovation—which they seem disposed to do. The truth is that the individual owner of a cab horse, working his own plant, cannot render so good a service, and at so small a cost, as the elaborately organized system of carrying passengers in cities everywhere, which is the basis of the new line of securities listed on the Paris *bourse*, to which reference has been made here. Doubtless the taxicab business will become less centralized in Paris in time, but that city deserves the credit for the innovation. But wherever the profits go, the rubber tire manufacturers may expect to benefit in whatever country the new vehicles are operated.

IF ANYBODY IS WORKING OVERTIME these days it must be the tire inventing class. They work even while they sleep, for surely they could not turn out during waking hours alone such a volume of contributions as they make to the patent office files. Besides, some of the specifications suggest "dreams"—mental activity after the midnight oil has ceased to burn. This is not recorded by way of criticism or complaint; the more the merrier for the looker on! But what reward has the inventor for such incessant effort? We have no idea that the motorists—the buyers of tires—ever hear of such strange things as they might if they had enough curiosity to read all the patent specifications. Can it be that the tire inventors have a grudge against the patent office examiners, which they seek to make felt by overwhelming the latter with work?

NOT SATISFIED MERELY WITH MAKING ARTIFICIAL RUBBER "equal to the best Pará," an English inventor, according to the newspapers, has gone so much farther as to make "a latex which could be coagulated into rubber." Whoever can produce a latex without the aid of nature ought not to find it difficult to produce latex yielding trees without waiting for seeds to germinate, and, what is more, trees that will yield latex in every climate, without regard to seasons. The artificial rubber inventor, when he comes to be really in earnest, knows no such word as impossibility.

A RECENT THEFT ON AN EXTENSIVE SCALE of motor tires is referred to in a local newspaper as having been carried out by burglars who didn't molest the cash or other valuables in the store. Which might justify the firm in claiming to make "good tires." Also, rubber surely is "going up" when it gets to be worth more than money.

THE USES FOR GUTTA-PERCHA TISSUE.

THE increasing number of uses to which gutta-percha tissue is being put is responsible for making this article quite important to the trade. When gutta-percha tissue was first made in the United States, something more than 50 years ago, it was manufactured exclusively for the use of hatters. By these it was used to stick the manufacturer's name plate or trade mark on the inside of the crown. The name plate was printed in silver or gold on the tissue, placed in the crown of the hat, a hot iron passed over it and it became inseparably a part of the felt. This use of gutta-percha tissue was for a long time the only important one to which it was put, although some hospitals used it for bandages and surgeons sometimes used it in dressing wounds where it was desirable to keep out the air. Except for these surgical uses it is commercially employed only as a cement for sticking cloth or for making it waterproof.

The archives of the Bishop Gutta-Percha Co. (New York) tell the story of the American demand. In his report to his stockholders in about 1866 Mr. Bishop relates that since the end of the war the demand for gutta-percha for cables, for splints, and for other surgical purposes had decreased very rapidly, but that in order to keep his factory busy and at the same time make a good profit, he had undertaken to supply the hat-making trade with gutta-percha tissue, which was used for affixing labels. This, Mr. Bishop said, was keeping the factory fairly busy.

Since that time the adhesive qualities of gutta-percha tissue has brought it into many uses. The principal of these is the demand created by the tailors, who use large quantities of the tissue in finishing the bottoms of trousers. For this purpose the tissue is put up on spools in strips of from 1 inch to 1½ inches in width, each spool containing 100 yards. Its use at the bottom of trousers prevents any stitching being necessary and therefore makes a much smoother finish. After the hem is turned up at the bottom of the leg a strip of gutta-percha tissue is placed between the two layers of the cloth, a hot iron is passed over it and the hem is cemented firmly and evenly. For this purpose the tailors use tissue that ranges from 6 to 8 square yards to the pound and is fully twice as heavy as the tissue used by the hatters. In some instances the tissue is also used in finishing the ends of sleeves, and in shaping coat collars. For the latter purpose, however, a stiffer material is generally needed.

Among the principal uses for which the tissue is used at present is the making of dress shields, and in covering corset steels. Dress shields are manufactured by placing a sheet of tissue, somewhat heavier than that used by the tailors and made of the pure gum, between two layers of cloth and cementing by the use of a hot iron. This makes a moisture proof shield, practically as light and pliable as the cloth itself. Large quantities are used in this manufacture. In the manufacture of corsets, steel stays are now generally used instead of whalebone. Gutta-percha tissue is used in furnishing a waterproof covering for these so as to prevent rusting. In cheap corsets the tissue is simply attached by heat to the steel itself, giving it a moisture proof coating, but in the finer grades strips of muslin and tissue are cut to exactly cover both sides of the steel; these are folded around the steel with the tissue between the metal and the cloth and cemented by the application of heat so that "skinning" or slipping off is an impossibility.

Another considerable use to which gutta-percha tissue has been put in recent years, is in dressing and repairing furs. For this purpose the tissue is invaluable. It is backed by a piece of cloth and these are furnished in a variety of colors to match the skins upon which they are to be used. The edges to be fastened are brought together, the tissue side of the fabric placed next to the skin and the iron applied with the result, if the color is well matched, that the joint cannot be discovered from either side of the fur. Patches are applied in this way and skins are pieced together. The process is also the basis

of the manufacture of the cheap furs that are so plentiful in the market. These are made up from scraps and odds and ends that formerly were thrown away. By careful workmanship and the use of gutta-percha tissue jackets, muffs and boas are now made at an extremely low price that require very close scrutiny to be detected. Quantities are used for this purpose and the joints are practically unbreakable.

Speaking of the patching utility of the tissue, it might be pointed out that one big firm, Larkins & Co. (Buffalo, New York) uses from 400 to 500 pounds of tissue a month which it cuts up and sells in envelopes as "mending tissue" at 10 cents a package. This tissue is cut into strips 6 inches wide and one yard long, one strip to the package. The directions say that it will mend instantly any fabric from the finest to the coarsest weave, kid gloves, rubber goods, hats or shoes. For mending a rent or cut the edges are drawn together, on the under side is placed a strip of tissue large enough to cover the hole, this is backed with a piece of the cloth and the whole hermetically sealed by the application of heat. If it is a hole that is being patched a piece of paper is placed on the outside to absorb the surplus tissue. In this case the tissue will adhere to the paper rather than to the cloth, leaving upon the latter no evidence of its presence.

The tissue is also used by shoemakers for mending shoes with invisible patches and for cementing in the original manufacture of the shoes. For this purpose and for splicing leather belts the gutta-percha cement is more generally used than the tissue. In the belt splicing great success has been obtained. The two surfaces to be joined are covered with a coating of the cement which is mixed in some volatile solvent. After evaporation has dried out the solvent and left the leather covered with the cement the surfaces are pressed together between hot irons and the adhesion is so perfect that the splice can scarcely be detected and is as strong as any other portion of the belt.

High class printing establishments are using quite an amount of tissue recently for underlaying cuts. This is made thicker than the mending tissue, running only 4 or 5 square yards to the pound. Cuts are backed with the tissue when hot, and run through the press. The plastic condition of the gutta-percha builds the cut to exactly the right height and when cold this is rigid. This is principally used in magazine and fine book work. The government printing office at Washington uses quite a quantity of gutta-percha tissue tape, ½ inch wide, one sixty-fourth of an inch thick and wound on spools of 100 yards each.

Paper manufacturers also use the tissue to a considerable extent for fastening the ends of rolls. The ends of the rolls are lapped with a strip of tissue between and the passage between the rollers furnishes enough heat for a perfect fastening.

New uses for the tissue are constantly being devised and the sale of it is gradually increasing, although some of the original services to which it was put have been lessened by substitutes. This is notably the case with the hat labels, only the higher priced goods now using the tissue. There are enough services for it, however, to keep the makers active and the demand is steady.

An eight-day taxicab test has been arranged to take place in Paris this month. One object is to give an opportunity of more accurately controlling and combining the consumption of the various fuels employed.

THE city of New York now owns, for the use of the various municipal departments, 102 automobiles. As mentioned in former INDIA RUBBER WORLD, rumors were not lacking of the want of system in keeping the machines in order, and the absence of economy in the matter of repairs. According to *The Motor World*, however, a municipal garage has now been opened, under the charge of responsible employees of the city, all the city automobiles now being cared for in one place, and all repairs and supplies being obtained at a minimum cost.

GUAYULE IN THE UNITED STATES.

THE production of guayule rubber in Texas is the subject of a recent report made by the German consul in Galveston, from which we quote: "The experiments made with the production of rubber from the guayule plant have proved so successful that a corporation known as The Big Bend Manufacturing Co. has closed a contract with the state government of Texas, by which it has acquired the right to utilize the guayule plants growing on all the so called school lands which are at the present time still owned by the state. The guayule producing areas thus leased comprise millions of acres of land in western Texas. The territory in which the guayule plant thrives especially well, extends from Langtry, in Val Verde county, to Cerro Blanco in El Paso county, and comprises an area measuring 250 miles in length by 75 to 100 miles in width. The present term of the contract of lease is four years, and the amount paid the state for rental is \$61,000. In order to prevent the destruction of the species, a special provision has been incorporated in the contract prohibiting the cutting of plants before they have reached a certain age and attained a stated height."

* * *

SOME details regarding the contract referred to in the German consular report appeared in THE INDIA RUBBER WORLD October 1, 1907 (page 21), including the provision of the act of the Texas legislature authorizing the contract, that no bid would be accepted from any party or a member of any trust, monopoly, or combination in restraint of trade. The act became effective on July 11, 1907, after a hasty passage, section 2 declaring the existence of such "an emergency and imperative public necessity that the constitutional rules requiring bills to be read on three days be suspended." Neither the act, however, nor the regulations for carrying it into effect, called for haste in the utilization of the guayule on the school lands, and it would not be surprising if the Texas supply controlled by the "Big Bend Manufacturing Co." should be held in reserve until richer fields in Mexico are exhausted.

* * *

ALL the guayule shrub in Texas is not on the school lands, however. THE INDIA RUBBER WORLD August 1, 1907 (page 332), reported the incorporation of the Texas Rubber Co., for the purpose of extracting rubber from guayule, stating that it had already purchased all the guayule shrub in three large Texas counties. No report has been had of action by this company, and it is possible that nothing will be done while the interests in control are busy in developing work in Mexico, which was begun at an earlier date. Texas has thus far contributed no guayule rubber to the market.

* * *

It may be of some interest to note that the guayule shrub first became the subject of scientific attention in what is now United States territory. Texas was formerly a part of Mexico, and upon its annexation to the United States a formal establishment of the boundary line between the two countries became necessary. The "Report on United States and Mexican Boundary Survey" made on behalf of the former country by Major William H. Emory (Washington, 1859), in a series of sumptuous quarto volumes, embraces a number of scientific reports, that on Botany (Volume II) being the work of the afterward famous John Torrey. On page 86 the plant now known as "guayule" is described by Asa Gray, an assistant in the work and also destined to become famous, and by him given the designation *Parthenium argentatum*, which it has still retained. The specimen reported on was gathered "near Escondido creek, Texas [a region which the present writer cannot identify], in rocky places, September, 1852," by Dr. Bigelow. Gray does not appear to have observed that the shrub contained rubber. The report referred to lists as occurring in the same general region the

already named *Parthenium icanum*, H. B. K., a plant now known in Mexico as "mariola," and often mistaken for guayule, though of no value as a rubber producer. [See THE INDIA RUBBER WORLD, July 1, 1905—page 335.]

The later and more notable scientific work, "Biologia Centrali-Americana," embraces 4 quarto volumes on Botany edited by William Botting Hemsley (London, 1879-1881). *Parthenium argentatum*, Gray, is mentioned (Volume II, page 148) as occurring in Texas and in northern Mexico from San Luis to San Antonio. Referring to the specimen in the Kew herbarium it is said: "We are not certain whether this was collected within our limits," meaning south of the Rio Grande.

* * *

A LETTER from the United States department of agriculture (bureau of plant industry) to THE INDIA RUBBER WORLD says: "Representatives of this department have visited the section of Texas which was reported as having guayule, with a view to its exploitation, but they nowhere found it in sufficient quantities to warrant the attempt. The possibility of establishing a successful culture of this plant seems too remote to justify experiments."

LARGE ORDERS FOR ELECTRICAL PLANT.

THE General Electric Co. (Schenectady, New York), through their Brazilian agents, have secured a contract for the electrification of the Central Railway of Brazil, in the neighborhood of Rio de Janeiro, an important government enterprise. The system embraces 700 miles of track, 303 locomotives, and about 3,000 cars. The General Electric Co.'s contract will entitle them to sell light and power in Rio de Janeiro and Niteroy. The General Electric Co.'s agents have also been granted a concession covering the supply of light and power to the city of Sao Paulo, Brazil, a city of 300,000 inhabitants and the largest coffee market in the world.

Siemens-Schuckert Werke G. m. b. H., of Berlin, are reported to have secured, through their branch in Mexico City, the order for the machinery and installation of the hydro-electric works on the lake of Chapala, near Guadalajara. It is estimated that the total expenditure on the works will amount to about 15,000,000 marks [= \$3,357,000].

It was reported to the Coventry city council [says London *Financial News*, September 23] that the contract for electric light cable had been placed with a German firm, the reasons being that the prices obtained from English firms were time after time almost identical, and that there seemed to be an arrangement as to which of the home tenders was to get the Coventry contract. It was further stated that the cable was the same, whether obtained from abroad or from English makers; yet as copper went up enormously in price and had now fallen, manufacturers must be getting a very large "pull." The Council confirmed the action of the committee making the contract with the German company.

Allgemeine Elektrizitäts Gesellschaft (the General Electric Co. of Berlin) were reported lately to have opened at Constantinople a special agency for the sale of their products.

VULCANINA.

AN Eastern contemporary, the name of which has been mislaid, contains the following from a correspondent: "It is stated in a Brazilian paper that a company has been organized for the exploitation of a Brazilian invention known as 'Vulcanina,' which is a preparation of rubber to be used for road paving and other purposes. It is further stated that the building in which the company will establish its offices has been acquired. In this connection I read in an account of the new premises of John Dewar & Son, Limited, in the Haymarket, London, that 'the floor of the main hall is laid with rubber tiles such as are now used in the best offices in America.'"

The India-Rubber Interest in the East.

By M. Kelsey Bamber.

AT one of the sessions of the International Rubber Conference held in connection with the International Rubber and Allied Trades Exhibition, at Olympia, at which Sir Henry A. Blake, C. C. M. G., presided over a large audience, Mr. M. Kelsey Bamber, representing the government of Ceylon, lectured on "The Cultivation and Preforation of Rubber in the East."

The lecturer reminded all interested in the industry that the more haste the less speed, and the cheapest and most rapidly grown and manufactured rubber was not necessarily going to prove the most profitable in the long run. Eastern planters and manufacturers had to produce rubber that would stand every commercial test, and they could not afford to run the risk of putting on the markets of the world an inferior article that would not stand tests of time and wear. Results had already shown that plantation rubber properly prepared from latex of mature trees was equal to the best Pará, and for certain purposes superior. But it was not invariably the case that the rubber was properly prepared, and therefore those concerned must neglect no chance of remedying errors, and profiting by the experience, which it was hoped would be largely gained from the present instructive Exhibition.

As regards soils, the rubber plant had a great power of adaptability, though rich alluvial soil suited it best. In Malaya, where the soil was most alluvial, the growth of Pará was very rapid when once the land had been drained, and a height of 12 to 14 feet and girth $4\frac{1}{2}$ to 5 inches after a year's growth were common, and these dimensions were frequently exceeded. In all cases, however, the Pará evidently did best where the soil was rich in decomposed humus (not peat) and with a fairly high percentage of nitrogen.

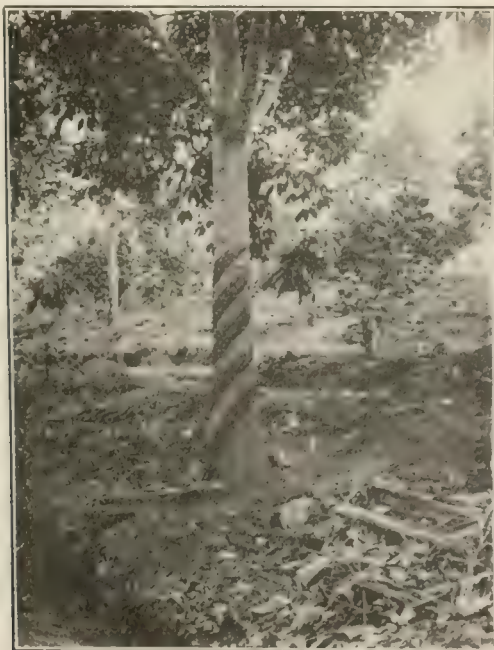
In Ceylon most of the rubber was first planted on ravines on tea estates, and the shade of the tea bushes protected the soil from too much exposure to the sun. In Malaya in the same way rubber was planted with Liberian coffee, and the shade given by the latter's dense growth protected the soil from the sun.

The lecturer exhibited on the screen photographs of various

trees growing on estates in the East, and cultivated with and without catch crops, and also with various green manures, which he thought showed convincingly that clean weeding was not essential to procuring excellent growths of rubber. He did not, however, advocate allowing grasses to run riot, but rather a crop of such habit as could be kept under control. With regard to lalang grass which caused much trouble on many estates, he mentioned that the passion flower had been found to be efficacious in destroying this pest at small expense, and he ventured to think that the passion flower would ultimately prove the salvation of many estates that had not sufficient capital to warrant large expenditure otherwise required for eradicating the lalang. Much money had been uselessly expended in clean weeding.

There were several indegnous plants, such as *Crotalaria mimosa* and *Desmodimus* which could be grown in many instances in such a dense manner that it was impossible for any weeds to grow between them. All these plants which belonged to the *Leguminosae*, and greatly benefited soils and rubber by their growth, were under perfect control, and easily eradicated.

The alluvial flats of the Federated Malay States required an enormous amount of draining, costing large sums of money, and even then much water remained in the subsoils. Here the growth of a luxuriant green crop with a branching and deep-root system had the further important advantage of removing by evaporation through the leaves much of this sour subsoil water which was unfavorable to development of the rubber tap root on which the stability of the trees during the heavy winds largely depended. It has been clearly proved that the baking of the surface by the sun did not dry soil or subsoil so completely as did a growing leaf crop. But apart from these considerations there were other and more important ones of the question of humus, and the hygroscopic power of the soil by which the future flow of the latex would be influenced to a large extent. The growth of green crops in place of clean weeding has also long been advocated by Mr. Carruthers, the director of agriculture in the Federated Malay States, and it seemed that clean



SPIRAL TAPPING OF "HEVEA."



"CEARA" RUBBER TREE AND METHOD OF TAPPING, CEYLON.



"HEVEA" RUBBER IN GRASS.



"HEVEA" WITH GRASS AND SENSITIVE PLANTS.



"CROTATARIA" IN RUBBER.



"HEVEA" RUBBER IN SUGAR CANE.
[In the Province of Wellesley.]



RUBBER AND CASSAVA IN THE MALAY STATES.



LARGEST GIRTHED RUBBER TREE IN CULTIVATION.
[In the Botanical Garden at Singapore.]

weeding would soon be abandoned on many estates and become a thing of the past.

The lecturer alluded to the advantages often to be obtained by the cultivation of catch crops where the soil and other conditions were favorable. Mr. Bamber dealt very fully with the question of tapping, and after describing the methods in general use he referred to the basal V system as the cheapest and probably the best, both for economy of bark and for strength of latex. He especially emphasized the bearing which this method of tapping would have upon the labor question, but pointed out that the successful adoption of this would depend to some extent on soil conditions. He deprecated the tapping of trees too young, giving five or six years as a minimum age, and he insisted on the need of the greatest care both in field and factory to get pure latex and free from any mechanical mixture, and also on the necessity of economy of bark in tapping operations. A falling off of the percentage of caoutchouc to below the payable minimum indicated the need for resting the tree, and this was a point to which planters should give more attention. He compared Brazilian and Eastern methods of tapping to give a possible explanation of why Brazilian rubber had greater tensile strength, which he ascribed to the greater maturity of the globules in the latex. With regard to renewal of bark, he pointed out that the bark had now been renewed two or three times, the yield from which was as great or even greater than from the original, thus showing the permanency of rubber production might, from this point of view, be reasonably assumed.

Reference made to the practice of Brazilian tappers who invariably make one or two gashes in the trees about 3 feet above the tapping area before they commence to tap, as they believe without these they could not obtain maximum crop. The idea underlying the practice was one which he thought might be commended to consideration of planters in the East. Proceeding next to deal with methods of manufacture, Mr. Bamber urged the need for obtaining uniformity in color and appearance. Pale rubber produced by the destruction of oxydase by heat was generally approved by manufacturers, and many German and other firms had declared that the demand for it would be practically unlimited if ample supplies could be relied upon to reach the market. The lecturer specially referred to the necessity of using only the purest water in the factories. Importance of not too rapidly drying rubber was borne out by the lecturer, whose views on this subject were more or less confirmed in subsequent discussion. Net results, he said, had been obtained from the quickly dried product which were far from satisfactory, and he expressed the belief that although it was impossible to say definitely what was the best method of drying, there was reason to believe that too rapid and complete drying would be found a serious mistake, and that they might be sacrificing some strength, elasticity and lasting power by the process.

Mr. Bamber mentioned also that Continental buyers seemed strongly in favor of rubber being exported in block from 1 inch to 1½ inches thick and about a foot square.

NOTE.—In connection with the preceding it may be of interest to read the correspondence in THE INDIA RUBBER WORLD, October 1, 1908 (page 44).—THE EDITOR.

The imperial German post office reports 135 wireless telegraph stations in that country. In Switzerland the authorities have spent \$32,500 within a year in wireless telegraphy experiments, with what they regard as satisfactory results.

The amount of rubber harvested by the Vallambrosa Rubber Co., Limited, for the six months ending September 30, 1908, was 114,304 pounds, against 103,908 pounds for the six months ending September 30, 1907, and 55,376 pounds for the same period in 1906. The Federated (Selangor) Rubber Co., Limited, harvested 15,785 pounds of rubber for the four months ended July 31, 1908, against 5,658 pounds for the same period last year.

RUBBER INTERESTS IN EUROPE.

THE New York-Hamburg India-Rubber Co., Limited, was registered in London July 15; capital £7,500 [= \$36,498.75]; to carry on the business of manufacturers and dealers in india-rubber and gutta-percha goods. This company will take care of the business in Great Britain of the New York-Hamburger Gummiwaaren-Compagnie, Actiengesellschaft, of Hamburg, established in 1871, and now capitalized at 2,001,000 marks [= \$476,238]. One of the directors of the Hamburg company—Fr. A. Döhner—is a director in the new London company. The Hamburg plant manufactures a full line of hard rubber goods—especially combs and electrical appliances. It was an outgrowth of the India-Rubber Comb Co., of College Point, New York. Conrad Poppenhusen, the founder of the College Point enterprise, after returning to Germany, his native country, where he ended his life, was actively interested in the New York-Hamburg company.

GERMANY.

The initial issue of *Die Gummi-Industrie*, which comes to us from Bramsche, near Osnabrück (to the west of Hanover), is an exceptionally good first number for a paper in any trade. It contains a good report of the London Rubber Exhibition, some technical articles of value, and comprehensive and world news and commercial departments. It comes from the publishing house of Wilhelm Brauer.

GREAT BRITAIN.

The London manager of the Home Rubber Co. (Trenton, New Jersey), is mentioned in *The India-Rubber Journal* as having disposed of no less than 43 tons of "N. B. O." packing within the past 14 months.

Mr. A. Stanley Morrison, one of the directors of the Leyland and Birmingham Rubber Co., Limited, was lately about to start on a visit to British North Borneo, where he and several of his friends have considerable investments in rubber planting.

RUBBER SUPPLIES AND PROSPECTS.

[FROM "THE TIMES OF CEYLON," AUGUST 29.]

THE Brazilian rubber year ends with the 30th of June, and the latest New York INDIA RUBBER WORLD [August 1, 1908—page 356] contains a review and estimate of the future which will be closely read by many people in Ceylon. It is further testimony to the fact that *Hevea* is the rubber to be reckoned with both from the superiority of the product and the permanency of the tree. As to the issue of the struggle between wild and plantation rubber, we take it that the American paper's view is the same as our own, viz., with the necessary fall in prices when large quantities of plantation rubber are produced some of the forests will have to be omitted, where the cost of collection is above the average, until prices rise again. This will prevent estates in the East being knocked out by over-production, but will subject them to market fluctuation in which, in rubber as in tea, there will be good, indifferent, and poor profit periods.

FOSSILIZED RUBBER TREES.—A correspondent of THE INDIA RUBBER WORLD sends in a suggestion of the possibility of rubber forests having flourished formerly in what is now North America, though without claiming for it any specific scientific warrant. He writes: "Scientists say that, centuries ago, the northern parts of the United States and Canada were the tropical centers of the Western Hemisphere, and if so, vegetation that now thrives in that zone must have grown luxuriantly in our north country. If this is so, the question arises: What became of the rubber trees that must have existed there?" Our correspondent offers a tentative suggestion by way of pointing out the similarity of the chemical analysis of some of the hydrocarbons now being found in North America, with the product of the *Hevea* and *Castilloa* rubber trees.

Some Synthetic Rubbers I Have Met.

By Henry C. Pearson.*

A GREAT many years ago the whole scientific world, which was neither very large nor very scientific, spent a whole lot of time searching for the philosopher's stone, which, if I remember rightly, if properly approached, would turn most anything into gold. We laugh at such childish folly to-day, and spend our time hunting for a philosopher's stone which shall turn everything into rubber. The transmutation of colloids is the dream of the chemist as well as the experimenter. The only trouble is they don't transmute.

If he was correctly quoted, Professor Wyndham Dunstan, in September, 1906, went on record before the British Association that synthetic rubber would be an accomplished fact within the year. Exactly where it would break out he did not indicate, nor whether it would be characterized by mild or virulent symptoms.

I should like to say personally that my acquaintance with synthetic rubber of certain sorts dates back to many years. It goes without saying that when a man really discovers synthetic rubber, he is more or less secretive about the materials of which the artificial gum is made; indeed that constantly growing class of discoverers, whom newspapers introduce to us from time to time, are the most secretive men I have ever met.

It was nearly 25 years ago that I was first brought into intimate contact with a gentleman who was apparently an honest, blunt, hard-working experimenter, who, in a private room behind locked doors, showed me a small sample of what appeared to be dry, fine Pará rubber. It gave out a faint odor of wintergreen, which he explained was added to it to destroy an odor that might lead some imitator to a knowledge of ingredients used in its manufacture. He assured me earnestly, calling up the Creator of real rubber to be his witness, that it was wholly an artificial product and contained no atom of caoutchouc; further than that, in a burst of confidence he agreed to let me see some of the materials of which the product was made. With much secrecy we crossed the city, let ourselves into the basement of his house, which was part workshop and laboratory, where I was shown a gum which I partially identified as Kauri, and a grease which looked like cocoa butter. There was a faint smell of bisulphide of carbon in the air, and he acknowledged that he used this solvent at a certain stage of the process, and upon heating it and the addition of a secret material, rubber appeared floating upon the liquid.

While we were thus talking an eminent and somewhat grasping capitalist appeared, claimed he was there by appointment, which I did not believe then, but do now, and at once went into executive session with the inventor, leaving me on the outside. It was a bitter blow to thus have millions torn so rudely from my grasp, particularly as I had mentally already squandered several hundred thousand pounds. However, I was out and had to make the best of it. As for the gentleman who was *in*, just to complete the story, it might be well to add that he erected a spacious factory in which were strange machinery, secret rooms,

glass floors, and other unusual and expensive paraphernalia, and for a number of years paid, while the inventor toiled, until one day the building was closed and has remained so up to the present time.

From that day to this neither the capitalist nor the inventor could be induced to say a word about their experiments or why they failed. I fancy the reason the capitalist would not talk is because he lost a great deal of money through the venture; and the only reason the inventor doesn't talk is because he is dead. [In the bottle marked A is a sample of this type of synthetic rubber.]

One of the Presidents of the United States had a relative who had a little money and was anxious to make more. He therefore intrusted some £8,000 of it into the hands of an apparently cultured gentlemanly, persuasive chemist, who had brought to him some 20 pounds of what appeared to be a high grade rubber, which the chemist, by the use of many technical terms wholly incomprehensible to the ordinary business man,

assured him was an entirely synthetic production. The £8,000 went for the equipment of a little factory near New York city, the erection of a secret room, from which daylight was excluded and only a certain shade or red light was allowed to illumine, and incidentally some very excellent champagne suppers at New York's most expensive hostelrys. It was just as the initial investment was about exhausted the matter was brought to my attention, and in this way.

With great secrecy a 10, 20 or 50 million dollar company was projected and all the machinery for selling much stock was quietly set in motion. One of the wealthy men approached had a lawyer who knew something about rubber and was very much of an investigator. He came to me first to size up the probabilities and to outline a method of investigation. The first move was to insist that the rubber be made in his presence. This was agreed to, but the inventor stipulated that no chemist be present. The lawyer was then given a list of ingredients which he was to purchase and carry to the factory. These amounted to about 20 pounds in weight. The inventor was to add one pound of secret material or composition necessary to complete the process and to protect the formula.

A day was then set for the test. When that day arrived the chemist was sick. Another day was set; the pound of material necessary for the experiment had gone astray. Another day was set; the chemist's grandmother had died and he had to attend the funeral. Finally the test was begun, the materials, consisting in part of cellulose, water and caustic soda, were set boiling and kept at it all day long. During this time the lawyer waited for the change in the cotton fiber to appear, when at a certain critical moment the composition must be added, or else no rubber would result.

About supper time the inventor stated that the material could not be ready till about 11 o'clock that night, and suggested that the lawyer go out and get something to eat. The lawyer at first refused, but finally went, and although he was gone only 35 minutes, the critical moment came during his absence and rubber appeared.



HENRY C. PEARSON.

*Read before the International Rubber Conference at Olympia, London. The lecturer exhibited about 50 samples of alleged synthetic rubbers, substitutes, and rubber assistants, which the audience examined with much apparent interest.

The lawyer was very wrathful on his return, investigated the dark room where the final change took place, discovered a hidden panel leading to another room, and enough evidence of fraud to lead him to advise his client against risking a dollar in the venture, and the business went no further. The inventor, by the way, dropped rubber and took up synthetic camphor, and was supported by a leading firm of chemists for a couple of years, until they brought the matter before the law courts, and he is now supported by the United States government, not in luxury, however, and his *habitat* is very much localized. I don't know how true it is, but it is rumored that he will be released next year and plans to come to England and manufacture synthetic shillings. [The jar B is this type of synthetic rubber..]

There is at the present time in the United States a factory in a prosperous town, with a high fence around it, with guards in evidence night and day, where a little old man is at work trying to do on a commercial scale what he alleges to have done in the laboratory, and that is to produce synthetic rubber from certain oils. He has been at it some three years, and is backed by very heavy capitalists. Further than this, a very distinguished American chemist and physicist who is miles above any suspicion of either collusion or lack of knowledge, has possession of the formula, and under the inventor's guidance made the gum himself and says over his own signature that the product is real synthetic rubber. He said this some three years ago, and his verdict resulted in the erection of a factory and the attempt to get out a commercial product. Without cataloguing the many delays that have followed the erection of the factory, due to the lack of purity of material, the impossibility of getting certain machinery, unfortunate breakdowns, etc., I want to say that if this is real synthetic rubber the inventor has gone far beyond anything that synthesis has heretofore been able to accomplish; for he has reproduced absolutely up river fine Park not only in texture, color, compounding capacity and vulcanizing ability, but he has successfully imitated the peculiar smoky smell individual in that type of rubber.

It is to be hoped that when he manufactures all grades of crude rubber commercially, among them synthetic Africans, he may be induced to leave out the synthetic African smell. [In the jar marked C is the synthetic Pará of the smoky smell.]

I hope you don't think that the Yankees are the only ones who indulge in synthetic pipe dreams. In an English paper of September 4 I read that synthetic rubber is now being made at Burton-on-Trent, and is called Burton rubber. I have not seen it, nor do I know the chemist, who may be the most honest and capable man on the face of the earth. But if he can make synthetic rubber commercially, why does he seek newspaper publicity instead of making and selling his valuable product. If he found nuggets of gold in his back yard, would he write *The Times* pages of argument to prove they were really gold, or would he quietly dig them up and put them into circulation? Just what base he works from it is difficult to tell, but from his published formula, the compound would seem to be equal parts of Old Burton ale and offensive smell.

In the bottle marked B is what was given me as a sample of partially synthetic rubber made along lines which appeared to be new. As you all know, the latex of a young *Castilloa* tree contains a great deal more resin than the latex of an old tree, the gum in the young tree containing about 40 per cent., while that in a mature tree about 7 per cent.

The theory of the producer of this semi-synthetic rubber, was that the tree in maturing turned its own resins into rubber; that by the proper treatment of this resinous latex, the inventor could do just what nature did. I could not see at the time that he did it, and certainly the sample on exhibition does not prove his claim. When I first put it in the bottle it was very resilient but contained 40 per cent. of resin.

Of course you are all aware of Professor Tilden's experiments in Birmingham, where he succeeded in producing minute particles

of india-rubber from terpenes. These results are of high scientific value, but it's a question if that knowledge will ever be of the slightest commercial value, because it is going to be easier and cheaper to produce rubber latex, bearing a large percentage of india-rubber, than to produce vegetable oils containing very minute quantities of india-rubber.

It is impossible to consider a subject like this without coming in touch with a great variety of substitutes for rubber that have been and still are in use to a certain degree in rubber manufacture. The rubber manufacturers know, of course, that none of these are in any way real substitutes for the crude gum. They can be used in connection with india-rubber and oftentimes add certain qualities to the compound that are of value, but there are very few places where they can be used alone in place of rubber. The most widely known of these are the oil substitutes which are so common that they need no explanation as regards their manufacture or use. There are also certain of the natural hydrocarbons such as mineral rubber, which are of definite use in adding certain quantities to many lines of rubber compounding.

There is just one word of caution that the honest producer of a rubber assistant should have or else he will deceive himself, and for a time deceive others. Suppose he is able to produce a fairly tough substitute that mixes well with rubber and is in no way harmful—indeed under test the vulcanized product containing his assistant is stronger than the same vulcanized product without it. He at once believes that he has a wonderful product, and perhaps he has, but he hasn't proved his case by such a test. In fairness to himself and the manufacturer, he should test not against a compound of pure gum and sulphur, but against compounds that contain earthy matter or metallic oxides that we all know add toughness to rubber compounds, and if his is better or cheaper it is of value, otherwise not.

It has occurred to me that in bringing some of my samples of rubber assistants here and calling your attention to them, it might stimulate an interchange of ideas, both on the subject of synthetic rubber and rubber substitutes, which will be much more valuable than a prolongation of this paper of mine. Frankly it's a subject I don't know much about, and even when I am in a room full of rubber experts, I don't feel a bit isolated by my ignorance.

Every industry has its trials, and every manufacturer could easily state his ideas of perfect bliss in the absence of such trials. I fancy the rubber man's Utopia would be—cold water vulcanization, no trade discounts, and the ability to produce synthetic rubber from sea water and air.

MANCHESTER AND BOSTON.

THE fact that Manchester is a larger consumer of rubber than any other town in Great Britain led to a recent suggestion that it was strange that Manchester had no spot market for rubber. The Manchester *Guardian* points out that in making this suggestion the important fact has been overlooked that near-by Liverpool is much better provided than Manchester with steamship services from the various rubber producing countries, and is therefore the most convenient entrepôt for all the different varieties.

The British situation here outlined is reflected in the United States, where Boston, the center of such an important section of the rubber industry, and the first American port to receive any crude rubber, is credited with only 1½ per cent. of the total imports of this material for the fiscal year 1906-07. There are other ports—notably New York—where better facilities now exist for transacting an important business in rubber.

THE American Hard Rubber Co. have taken over the tiling business carried on hitherto by The Gutta Percha and Rubber Manufacturing Co., and will manufacture goods in this line at their factory in College Point, New York.

The Late Theodore S. Bassett.

THE news will be heard with widespread regret of the death of Theodore Sheldon Bassett, which occurred on October 7, at his summer residence, at Fort Trumbull Beach, Milford, Connecticut, after a brief illness, in his sixty-ninth year. At the commencement of his last indisposition his friends looked for his early recovery, on account of the known excellence of his general health. The end came suddenly and quietly.

The subject of this sketch was the son of Sheldon Bassett, long identified with the industrial development of the Naugatuck valley in Connecticut, and who married Harriet Hull, a niece of the two brothers, Commodore Isaac Hull and General William Hull, who rendered such distinctive service during the War of 1812. Sheldon Bassett, shortly after the establishment of what is now the Birmingham Iron Foundry, at Derby, in 1836 became a member of the firm operating it. Upon the incorporation of the present stock company, in 1850, Mr. Bassett was elected president, which position he held until his death, fifteen years later.

Theodore S. Bassett at an early age evinced an aptitude for business. As early as his sixteenth year he was employed in a manufacturing establishment in New York city conducted by an uncle. He was interested in the Robert N. Bassett Co., one of the oldest factories in Derby, making corset steels and the like. During the period of construction of the Union Pacific Railway Mr. Bassett established a rolling mill at Laramie, Wyoming, for the manufacture of a large quantity of the rails required, and he was present when the last spike was driven and travel was opened on that road. Thirty years ago Mr. Bassett became interested in the Birmingham Iron Foundry—the business with which his father had so long been connected—and at the time of his death filled the office of vice-president of the corporation.

It was partially owing to the fact that the Birmingham concern engaged largely in the manufacture of equipment for rubber factories that Mr. Bassett began, a number of years ago, to take a deep interest in the rubber industry. In 1889 he assisted in the establishment of a rubber reclaiming plant at Shelton (Derby), Connecticut, which business, conducted as a copartnership, in 1895 took the name U. S. Rubber Reclaiming Works. In June, 1900, the business was incorporated under this name under the laws of New Jersey; at the same time the reclaiming business of the Loewenthal Rubber Co. became associated with it. Mr. Bassett was elected president of the corporation, which position he held until the time of his death. The positions of vice-president and treasurer have been held during the same period by R. A. Loewenthal and Max Loewenthal, respectively, while lately a son of Mr. Bassett has been secretary. Meanwhile the company, now operating at Buffalo, New York, has grown to be the largest in its field.

In addition to the businesses named, Mr. Bassett was interested, as a shareholder or otherwise, in various other industrial enterprises. For many years he was a resident of Birmingham, serving for some years as treasurer of that city. He was also at one time postmaster there, under appointment by President Cleveland. He was a Scottish Rite Mason and a

Knight Templar. Mr. Bassett was a member of the New England Rubber Club, and took a lively interest in its entertainments.

Mr. Bassett possessed a very great number of friends—friends who were steadfast and strongly attached to him. While gentle and kindly in disposition, he was firm in the maintenance of his standards of character and in his devotion to others. Throughout life his quiet, unostentatious benefactions lightened many burdens, without the knowledge of any except those who were aided. Mr. Bassett married Miss Caroline Wells, daughter of Harmon K. Wells, a New York merchant, who passed away on January 27, 1907, after forty-five years of devoted companionship. There were two sons—Theodore W., who survives his father, and Harmon S., who died in May, 1900.

Funeral services were held at the Second Congregational Church, at Derby, on the afternoon of October 10, and the interment was in the family plot in the cemetery at Derby.

OBITUARY NOTES.

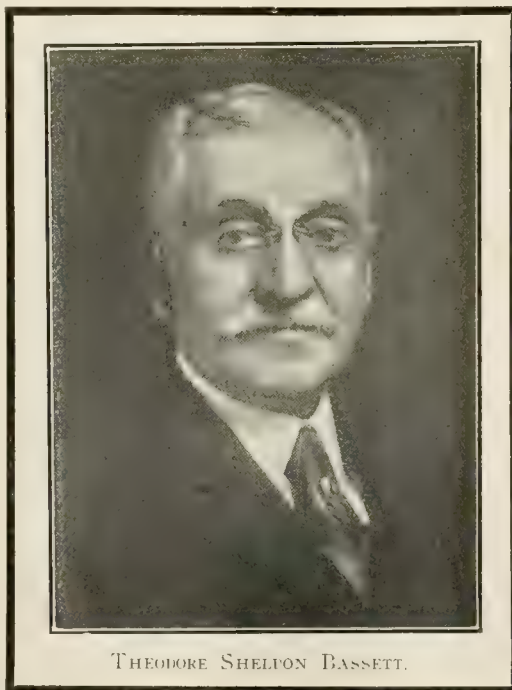
THE late Valentine B. Lang, vice-president of The Hartford Rubber Works Co., whose death was reported in THE INDIA RUBBER WORLD last month (page 46), at the age of 25 entered the employ of the West Shore Railroad as a machine shop foreman, under the late Charles H. Dale, whose connection with that road was mentioned in the sketch of the life of the latter which appeared recently in these pages. Mr. Lang continued successfully in the railroad field until Mr. Dale had become president of the Rubber Goods Manufacturing Co., and was looking for some one to superintend the erection of the new factory of the Morgan & Wright rubber company at Detroit. Mr. Lang was sent for at that time, after which he remained connected with the rubber interest.

S. N. Aldrich, president of the State National Bank of Boston, who died on September 27, was a brother of Edward I. Aldrich, selling agent of the Hood Rubber Co., and long a member of the Boston School Board.

The death is reported, in *De Indische Mercuur*, of Samuel R. Stokvis, chairman of the board of R. S. Stokvis & Zonen, Limited, of Rotterdam. [See THE INDIA RUBBER WORLD, August 1, 1908—page 378.]

F. A. C. PERRINE.

FREDERIC A. C. PERRINE, PH.D., a well known authority on electrical science, died at his home in Plainfield, New Jersey, on October 20, of Bright's disease, at the age of 46. He was born at Freehold, N. J., and was graduated from Princeton University. He devoted some years to practical engineering, first as superintendent of the insulated wire department of the John A. Roebling's Sons Co., and later as consulting electrician of the Crescent Insulated Wire and Cable Co. (Trenton, N. J.). Dr. Perrine later became professor in electrical science at the Leland Stanford, Jr., University, in California, and afterward president of the Stanley Electric Co. (Pittsfield, Massachusetts). Latterly he was engaged as consulting engineer. He was an active member of the American Institute of Electrical Engineers, and the author of a number of works on electricity.



THEODORE SHELTON BASSETT.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

NOW that the curtain has fallen on the Rubber Congress, as it may be called, no doubt the trade organs in English, French and German will have something to say on many of its aspects over and above the exhibits proper. Personally, I have no grievance to ventilate, though I have no doubt that the *India-Rubber Journal*, in its spirited protest against the exclusion of its reporter from the conference room, is only voicing the feelings of many of its readers. On a future occasion no doubt some official will be appointed to draw up a program of titles, dates, and hours in advance, so that men who cannot be in attendance all day for a fortnight can make arrangements to attend any lectures in which they are particularly interested. An interesting and useful feature of the Exhibition was the opportunity afforded the scientific workers, both chemical and botanical, from different countries, to become acquainted with one another. As regards the lectures, however, the language difficulty cropped up. It is one thing to address a few words of salutation to a foreigner, and another to follow a learned discourse in a foreign tongue clearly enough to be able to criticize it. Until the lecturer had got to work the audience never knew what tongue he was going to speak in, and it is hardly surprising that audiences which in many cases were not large at the commencement of the lecture, became still more attenuated during its delivery. It cannot be said that the rubber manufacturing industry of Great Britain did much by their exhibits or their presence to promote the success of the Exhibition, but it must be remembered that the trade as a whole is strongly conservative, and in the conduct of its affairs has always preferred the wooden shutter to the glass windows. Over and above the question of expense involved no doubt a feeling existed that there was a danger of giving away more than would be got in return, seeing that so many experts were coming from abroad. Personally, if I had an exhibit of goods, whether manufactured rubber, or to be used in the rubber manufacture, I should show some reserve in explaining their details and merits to perfect strangers. Exhibitors may, of course, claim that they know their own business and do not want outside advice, but were I an exhibitor of proprietary articles I think I should ask for my interlocutor's visiting card before describing to him in flowery language the particular merits and applications of my goods.

THE EXHIBITION AT OLYMPIA.

Turning now to raw rubber, with which the Exhibition was primarily concerned, one or two novelties call for attention. At the stand of David Bridge & Co., the rubber machinists, was the patent coagulating machine of Da Costa, by the use of which it is claimed that rubber equal in every respect to fine Pará can be produced from *Castilloa* latex. By a pictorial representation of the old smoking process for Pará in the forest, and of the new process in which fumigation is also employed, it is sought to convey the impression that the old has been superseded by the new. I didn't know how far this assumption is founded on fact, but so far I have been unable to get any corroborative evidence from our manufacturers of the claims made for *Castilloa* rubber coagulated by the new process. Of course the rubber may not have come under their close notice yet, and they may yet recall the expressed opinion that they do not believe in it. There was also a Ceará rubber on view, prepared by a new process, which made it equal to Pará; in this case, as well, some corroborative evidence from the factory seems desirable. I was told that it fetched a penny per pound more than fine Pará for such purposes as ground sheets, where its greater adhesiveness and greater capacity of taking up mineral

had proved points in its favor. At the Netherlands stall I noticed a quantity of gutta-percha, the analysis of which was given as follows: Resin, 18.2; gutta, 76.2; water and dirt, 5.6. This was obtained by tapping trees in Java, presumably from plantations, and it is of importance in showing that not only can gutta trees be cultivated, but that the product can be obtained of excellent quality without the wasteful procedure of felling the tree.

It was with much regret that I noticed in the papers the death of Mr. John Pollitt, at Warsaw, from cholera, contracted at St. Petersburg. Mr. Pollitt was senior representative of the Irwell and Eastern Rubber Manufacturing Co., Limited, of Salford, Manchester, with which firm he had been associated for about 20 years, and his presence in St. Petersburg was due to a business tour he had undertaken in Russia.

OBITUARY.

IN the various districts in the south of England, including London suburbs, where broken flints are largely used as road-mending material, complaints are rife as to the damage done to goloshes. I was shown the other day a pair of quite new rubbers bearing the inscription "Boston Rubber Shoe Co.," which had been cut on the sole as to let in water freely, and it was suggested that I should write something on the subject. The destruction caused by broken flints is by no means confined to goloshes, as wearers of leather boots will testify, but naturally the results are more disastrous in the case of rubber. Seeing that goloshes are being increasingly used in England, especially by ladies who are not particular to a penny or two about the price, I would suggest to those primarily concerned that a brand with a harder sole should be put on the market, as being especially adapted for use on flinty roads. The flints, it should be mentioned, are put on the footway as well as on the road, and in an important London suburb it is a common thing to see pedestrians using the road instead of the sidewalk. I believe that a golosh with a heel shod with vulcanite has been proposed by C. M. Berry of the United States, and the idea might possibly be extended to the sole.

THE Jubilee Exhibition of the Chamber of Commerce at Prague, the capital of Bohemia, must be pronounced a very good one, and it is somewhat surprising that the manufacturing exhibits have not received more notice in the foreign press. The

NOTES FROM BOHEMIA.

racial conflict between the Slavs and the Germans may have had something to do with this, to judge by what I gleaned in conversation with German merchants. For those who do not understand Bohemian (Czechish) it is somewhat disconcerting to find the universality of this language in Prague, and the Exhibition formed no exception, very few of the exhibits being described in German as well as Czech. With regard to the rubber trade I have hardly anything to notice, the few manufacturers, as far as I could discover, not having any special exhibits. I looked in vain for the Prager Gummi-Werk of Vysocan, and the most complete show of rubber goods which met my eye was that of J. Maendl, the agent in Prague for the United Berlin-Frankfort India-Rubber Co. In the September issue of *THE INDIA RUBBER WORLD* the mysteries of the Russian language in respect to the designation of rubber works are explained; so I am emboldened to give an example from the Czech language which has this advantage over Russian that Latin and not Cyrillic characters are used. An exhibit in one of the stands was marked "Pryzové a Asbestové Rukavice" (Gummi and Asbestos Handschuh), or, in English, rubber and asbestos gloves. Vulcanized

fiber was prominent in the large exhibit of Franz Lukeschi, of Prague, and balata belting caught the eye in more than one direction. To leave Prague and glance at one or two other places visited, I may say that in the metal mining districts the applications of rubber in the form of conveying belts, vanner belts, etc., were noticeably absent. Despite the continuous wet weather at Marienbad, very few mackintoshes were to be seen, though goloshes were offered for sale in several establishments. An attempt to examine the tires on the fine motor car belonging to King Edward proved abortive, owing to the activity of the local police. At Carlsbad plenty of mackintoshes were to be seen, but these formed part of the regulation costume of the girl attendants at the Spindel and other springs, the water of which rises with considerable force and at a temperature not much below the boiling point. As any attempt at a closer examination might have been misunderstood and resented, I can only say that they resembled the ordinary white coachman's mackintosh with cape.

In the course of my wanderings I fell in with Herr Albert Schäfer, Austrian representative of the firm of B. Polack of Waltershausen (Thuringen), as well known in the motor tire world in England as well as on the Continent. The fact that for more than a week I did not see a motor car and altogether very few, shows that I was mostly off the recognized routes, and it must have been merely coincidence that I specially noticed tires bearing lettering "Goodrich, Akron."

JUDGING from the annual meeting held in September, this company is still a long way from realizing the success predicted in the prospectus. Sir Raymond West, K.C.I.E., who presided at the meeting, told his hearers that the main thing necessary in this case was a return to normal rubber prices. I am rather curious to know what is considered the normal prices for any brand of rubber, and very much doubt if the term can be used in connection with a raw material which fluctuates in price according to supply and demand. No doubt producers look back with envy to the higher prices which have obtained, but there is no reason to doubt them normal any more than abnormal.

IN my notice of this Exhibition a few months ago, I mentioned that Reddaway's pavilion was only in process of erection. Recently I had an opportunity of visiting it and, speaking only of its contents, I was particularly struck with the display of rubber goods intended specially for mining. As regards conveyor belts, the firm can testify to the wearing capacity of rubber both for coal and metallic ore belts of their make, having been in use for many years at prominent mines. A model conveyor plant formed an interesting part of the exhibit, and was certainly of greater novelty than the coils of belting with the manufacture of which the firm of Reddaway & Co. have been so long associated. I was also shown the wide belts used on Frue vanners, though I was previously under the impression that such belts were only made in Great Britain, north of the Tweed. Most of those which have come under my notice in England were of American origin, but judging from what was told me of the wearing capacity of the Manchester made belt, England should be able to supply her own needs in this respect with advantage.

One other pavilion not open on my previous visit was that of the West African crown colonies. About the samples of raw rubber shown there is nothing that calls for special mention, but I noticed in the statistics given for Southern Nigeria, that the value of the rubber exports had fallen from £307,077 in 1906, to £153,914 in 1907. For the Gold Coast the figure was practically the same for each year. Now with regard to Nigerian rubber, it has been noticeable for some time at Liverpool that the quality has deteriorated, and the sticky blocks which have been offered have changed hands with some difficulty at prices which

can hardly be considered satisfactory by the sellers. Presuming that the rubber is available in sufficient quantity, as also the collectors, it seems that some energetic action is required to preserve the Nigerian rubber industry from decay. There may, of course, be reasons for the decline mentioned which may have already ceased to be effective, but this does not affect the statement as to the deterioration in quality and the consequent decreased demand. If the increased use of plantation rubber was the cause of the lessened demand one would expect to see the Gold Coast exports affected also, though I do not pretend to speak with authority on a point of such intricacy.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statements of values of exports of manufactures of india-rubber and gutta-percha for the month of August, 1908, and for the first eight months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
August, 1908	\$99,258	\$270,751	\$251,229	\$621,238
January to July.....	714,125	656,333	2,120,145	3,490,603
Total	\$813,383	\$927,084	\$2,371,374	\$4,111,841
Total, 1907	920,715	908,440	2,702,777	4,531,932
Total, 1906	800,245	788,966	2,094,098	3,683,309
Total, 1905	755,088	767,775	1,918,481	3,442,244
Total, 1904	570,972	651,392	1,600,574	2,822,938

IMPORTS INTO MEXICO.

OWING to the system of classification in vogue in the Mexican customs service it is not easy to determine the amount of rubber goods imported. Under two headings, however, the details are definitely stated, and below are given the figures for the fiscal year ending June 30, 1907, and the corresponding totals for 1896-97—ten years previously (values in Mexican silver):

BELTING.	HOSE.
United States .....\$257,252.88	United States .....\$217,158.70
Great Britain 83,028.38	Germany 25,662.05
Germany 28,309.64	Great Britain 11,133.83
France 14,616.60	France 587.00
Belgium 1,740.00	Austria-Hungary .. 104.00
	Switzerland 44.00
Total	\$385,007.50
Total, 1896-97....	186,292 00
	Total
	\$254,689.58
	Total, 1896-97....
	174,452.00

From the extent of mining operations in Mexico it is evident that the importations of rubber packing are important. The imports of rubber footwear are not important. Elastic webbing and tissues, however, are taken in large quantities; and tires and dental dam also are embraced in the imports.

"RUBBER HEELS BAD FOR THIEVES."

UNDER conviction for the larceny of rubber heels, valued at \$150, from the Plymouth Rubber Co. (Stoughton, Massachusetts), James Chase, aged 68, was sentenced for one year to the Dedham house of correction. It was not charged that Chase had been a thief before, and burglary was not alleged, so that he does not appear to belong to the same class with the unfortunates whose experience with rubber heels was recorded in THE INDIA RUBBER WORLD, October 1, 1908 (page 28). The late news has the same bearing, however, in indicating that rubber heels seem not to be desirable articles for thieves to deal with.

Somebody sends to this office the suggestion that some "rubber heels" would be "bad for thieves" from a point of view not yet mentioned. That is to say, if thieves were to break into some stores and carry away the so-called rubber heels carried in stock, the quality would be found to be such as to afford them little reward for their trouble.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

SALES departments of local rubber companies report excellent business during the last month. All say that September sales were unusually satisfactory and that there is prospect for unprecedented trade during 1909. Secretary Carkhuff, of the Firestone company, in speaking of the trend of business, said: "I hesitate to say this, because it sounds so much like the conventional optimistic statement that has been expressed by business men recently, but it is a fact that our business, especially in carriage tires, as well as in the pneumatic line, has been picking up decidedly in comparison to last year, and there are indications for a larger business in 1909."

* * *

LOCAL rubber manufacturers generally note a decided increase in the demand for mechanical rubber goods. Said an official of The B. F. Goodrich Co.: "The mechanical line has been picking up during the last six weeks. Previous to that period it had been slow since the business depression set in. Business in the tire line recovered quickly and now large orders for such goods as hose, belting, packing and molded goods are coming in so rapidly that a night force has been started in several departments to increase the rapidity of the output. Dealers are coming to the point where they positively need the goods, or else confidence has been so much restored that they think they can afford to buy and buy heavily."

* * *

THE B. F. Goodrich Co. are establishing four new branch houses—in Kansas City, Minneapolis, Pittsburgh and Atlanta. They were decided upon in the middle of October and will be opened at once. The additional branches were called for by the increase in demand for automobile tires in those sections. At present these four are tire branches, but it is intended to have them handle the complete line of the company's products at a later date. The Goodrich company now have a total of 18 branch houses.

* * *

THE Diamond Rubber Co. have plans completed for the construction of two factory buildings on land recently purchased on Jackson street, adjoining the plant on the south. Each building will be 300 x 100 feet, one four stories high and the other one story. The lower building will be started at once and the other will be built in the spring. An overhead bridge has been constructed to connect the present part of the factory with the new buildings across the street. An official said that the new buildings will be used for general factory purposes. Their construction was made necessary by the increase in the automobile tire business.

* * *

THE Firestone Tire and Rubber Co. have purchased the plant of the Globe Foundry and Machine Co., adjoining the rubber factory. The property embraces several buildings and five large lots. S. G. Carkhuff, secretary of the company, says that the property will be used as the site of a large factory building to be put up in the spring. Its dimensions, he says, have not yet been decided upon, but it will exceed in size the building now under construction, which was announced in the last issue of THE INDIA RUBBER WORLD. This structure will be 125 x 50 feet, and four stories high.

* * *

At the annual stockholders' meeting of The Diamond Rubber Co., held on October 20, the following directors were elected for the ensuing year: C. A. Lake, Chicago; O. C. Barber, Akron; F. A. Hardy, Chicago; A. H. Marks, Akron; W. B. Miller, Akron; and O. S. Hart, Akron. E. K. Hardy, Akron, who is now touring Europe, resigned, and O. S. Hart, cashier of the company, was elected to fill the vacancy. The directors met in the afternoon of the same day and re-elected the following of-

ficers: Francis A. Hardy, president; A. H. Marks, vice-president; W. B. Miller, secretary; and A. H. Noah, treasurer. The directors declared a 10 per cent dividend.

* * *

H. S. FIRESTONE, president of the Firestone Tire and Rubber Co., is making a six weeks' tour through the West, visiting the Firestone branches and agencies and inspecting business conditions generally. He is expected to return in the middle of November. The trip is much in the nature of a well-deserved vacation for Mr. Firestone. During his absence, Mr. Carkhuff is the executive head of the offices

* * *

IN automobile racing and reliability events, the importance of the rubber tire as a factor in the contest is beginning to receive increased attention. In the thousand mile reliability contest conducted by the Chicago Motor Club, what probably was the first trophy ever offered to manufacturers of rubber tires was donated by C. P. Kimball & Co., auto body makers of Chicago. The cup was awarded to the competing company whose tires should receive the smallest number of points of penalization. In this case the successful contesting company was The Diamond Rubber Co. In order to be eligible, it was necessary for a company to be represented by at least two sets of tires.

In this connection the cups awarded by the Firestone Tire and Rubber Co. to Robertson and Florida, drivers in the Fairmount Park races, might be mentioned. The Firestone company presented the trophies to the drivers of the Locomobile cars as an appreciation of their success in handling their tires. Medals were also given to the mechanics of the two drivers.

* * *

THE Akron tire companies, especially those making a specialty of racing tires, were represented at the Vanderbilt Cup race, on Long Island. The Goodrich and Firestone companies sent prominent officials. The Diamond Rubber Company, having six of the nine American cars equipped with their tires, were represented by C. B. Myers, W. B. Miller, A. H. Marks, J. D. Tew and J. A. Braden. Akron companies were also well represented at the Chicago show of the Carriage Builders' National Association.

* * *

THE Diamond Rubber Co.'s branch in Detroit was moved into the Cadillac building, on Jefferson avenue, during October. The new location affords double the space and better facilities than the old one.

* * *

MR. ERNEST E. BUCKLETON, manager of the Northwestern Rubber Co., Limited, of Liverpool, was in Akron on business for a short time about October 20. He has since returned to England.

* * *

MR. A. H. NOAH, treasurer of the Diamond Rubber Co., is preparing to build a palatial home on the Country Club road, west of Akron.

It is recorded of a certain packing manufacturer in the United States that, during the first year of the business he offered a rubber supply house a one-third interest for \$1,500, but the business did not appear attractive. The profits for the first year amounted to \$53,000, however, and they have not been smaller in any succeeding year.

A CERTAIN COMPANY ARE REPORTED in our news columns to have lost only \$35,641.25 1/6 by last year's trading, although they produced leaf gutta-percha, motor car tires, and quinine bark, and planted rubber and gutta-percha. We have known concerns to lose more money in a year through carrying on a single line of business. Really, considering the number of "irons in the fire," the company under review have reason for self congratulation.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED SEPTEMBER 1, 1908.

- N**O. 897,309. Vulcanizing mandrel for rubber hose. S. J. Sill, assignor of one-half to H. H. Hewitt, both of Buffalo, N. Y.
 897,339. Automatic machine for winding fire hose pipe and analogous tubing. E. D. C. Bayne and L. A. Subers, Cleveland, Ohio.
 897,382. Braiding machine. J. Lundgren, Philadelphia, assignor to Sampson Cordage Works, Boston.
 897,395. Hose nozzle cart. E. J. Petru and J. Zidek, Chicago.
 897,472. Jar for storage batteries. J. Marx, Buffalo, N. Y.
 897,630. Detachable rim [for vehicle wheels]. R. Kronenberg, Ohligs, Germany.
 897,701. Detachable rim for vehicle wheel tires. E. A. Baker, assignor to Rapid Removable Rim Co., all of New York city.
 897,726. Vehicle tire. [Pneumatic]. J. L. G. Dykes, Milford, Ill.
 897,758. Process for manufacturing indurated fiber. I. W. Marshall, assignor of one-half to T. E. Marshall, both of Yorklyn, Del.
 897,811. Automatic pneumatic tire inflator [for use on automobiles]. R. C. Barrie, Philadelphia.
 897,841. Tire tool. G. Mohme and A. V. Hadlock, Chicago.
 897,860. Rubber tread [for boot heels, with metallic plate imbedded]. W. E. Herbst, Hartford, Conn.

ISSUED SEPTEMBER 8, 1908.

- 897,880. Wheel tire [with specially constructed feely, and flexible tread]. J. S. Cushing, Norwood, Mass.
 897,881. Elastic wheel [with sliding spokes and flexible tread]. A. Dauvergne, Lyons, France.
 897,920. Cushion for boots and shoes [of sponge rubber]. F. P. McIntyre, Philadelphia.
 897,932. Tire plug. R. Sampson, Montreal, Quebec, Canada.
 898,017. Hose coupling. W. B. Steen, Millcreek township, Pa.
 898,057. Wheel [with pneumatic tire and means for retaining the same]. J. W. Maixell, Lewisburg, Pa.
 898,190. Hose and pipe coupling. W. Eisemann, Ford City, Mich.
 898,280. Vehicle wheel [with solid rubber tire in "twin" form]. L. Snell, Little Falls, N. Y.
 898,402. Elastic vehicle tire. W. Brameld, assignor of one-tenth to J. T. Jordan, both of Paterson, N. J.

Trade Marks.

- 35,652. The New Jersey Asbestos Co., Camden, N. J. The words "Dagger" in a diamond-shaped design. For asbestos packing.
 35,672. Regal Shoe Co., Boston. The word *Regal*. For rubber boots and shoes.
 35,833. Woven Steel Hose and Rubber Co., Trenton, N. J. The word "Herald." For packings of rubber and other materials.

ISSUED SEPTEMBER 15, 1908.

- 898,497. Automobile tire. [Solid rubber, retained by a split rim.] W. Müller, Philadelphia.
 898,541. Packing for piston valves and pistons. J. T. Wilson, Jersey Shore, Pa.
 898,617. Packing for pistons and piston valves. J. T. Wilson, Jersey Shore, Pa.
 898,714. Anchoring and tension device for tire protectors. S. C. Wolfe, Angola, Ind.
 898,759. Hose nozzle. J. H. Melavin, Cambridge, Mass.
 898,832. Elastic tire for wheels. F. J. Chary, Paris, France.
 898,850. Pneumatic tire. W. Drury, Swansea, Wales, England.
 898,907. Tire for vehicle wheels. T. J. Mell, Youngstown, Ohio, assignor to The Republic Rubber Co.

Trade Marks.

- 35,845. Hood Rubber Co., Boston. The word *Oldcolon*. For rubber boots and shoes.

ISSUED SEPTEMBER 22, 1908.

- 899,061. Vehicle tire. [Reinforcing cable of metal and textile strands.] R. M. Merriman, Youngstown, Ohio.
 899,092. Woven hose. C. Alvord, Worcester, Mass., assignor to Fabric Fire Hose Co., New York city.
 899,126. Spare tire holder. L. P. McKinney, assignor of one-half to J. L. Snow, both of Boston.
 899,139. Cushion tire. J. G. Smith, Wahoo, Neb.
 899,331. Wheel for vehicles. W. H. Scrymgour, London, England.
 899,332. Spring wheel for vehicles. Same.
 899,333. Vehicle wheel. [Pneumatic.] I. C. Scudder, New York city.
 899,425. Resilient wheel. J. E. McQuilkin, Westmoreland county, Pa.

Design.

- 39,575. T. J. Mell, Youngstown, Ohio, assignor to The Republic Rubber Co. Ornamental design for a wheel tire.

Trade Marks.

- 9,043. E. C. Atkins & Co., Indianapolis, Ind. The word *Cop*. For rubber beltings, machinery and packings.
 4,044. E. C. Atkins & Co., Indianapolis, Ind. The word *Foe*. For rubber beltings, machinery and packings.

- 35,669. National Shoemakers, Lewiston, Me. The word *Passion*, for cloth, rubber and leather shoes.
 35,670. National Shoemakers, Lewiston, Me. The word *Navigator*. For cloth, rubber and leather shoes.
 36,291. New Jersey Car Spring and Rubber Co., Jersey City, N. J. The word *Gladiator*. For machinery belting.

ISSUED SEPTEMBER 29, 1908.

- 899,620. Tire inflator for automobiles. P. J. Ross, Trevor, Wis.; D. C. Ross, Rydner, N. D., administrator of said P. J. Ross, deceased.
 899,638. Spring wheel. H. E. Heaton, Oroville, Cal.
 899,699. Wheel for vehicles [Cushion wheel, with rubber tread.] W. D. McNaull, Toledo, Ohio.
 899,741. Belt tightener. F. L. Lane and B. D. Stevens, assignors to The Berlin Machine Works, all of Beloit, Wis.
 899,876. Automobile wheel. J. Laus, Jr., Oshkosh, Wis.
 899,934. Wheel [with elastic tire]. G. Wolke, Jacksonville, Ill.

Trade Marks.

- 33,230. Marshall-Wells Hardware Co., Duluth, Minn. The word *Zenith* and the initials *M. W. H. Co.*, within a ring and under a star. For mechanical rubber goods.
 35,125. American Circular Loom Co., Boston. The representation of a coil of flexible electric conduit. For such conduits.
 35,423. E. C. Atkins & Co., Indianapolis, Ind. The word *Tar*. For rubber belting, packing and hose.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1907.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 2, 1908.]

- 10,800 (1907). Felloe and rim for pneumatic tires. F. F. Mote, Cheable, Cheshire, and another.
 10,814 (1907). Screw attachment for heel pads. F. H. Barker and Wilbar Mfg. Co., Manchester.
 10,840 (1907). Golf tee. G. H. Bartlett, Norwich.
 10,846 (1907). Supplementary rollers to prevent side slip in motor vehicles. E. Martin, London.
 10,848 (1907). Treatment of rubber latex. D. Sandmann, Berlin, Germany.
 10,869 (1907). Rubber tired wheel rendered more resilient by laminated springs between inner and outer rims. M. W. Peck, London.
 10,870 (1907). Wheel with two rims side by side for rubber tires. P. E. Doolittle, Toronto, Canada.
 10,950 (1907). Pneumatic tire with angular projections enclosing air pockets in a tread surface for preventing side slip. Eleazar Kempshall, London.
 10,971 (1907). Shades for motor car wheels to serve as dust guards and to protect the tires from the sun's heat. H. M. L. Crouan, Asnières (Seine), France.
 10,977 (1907). Material for tire treads composed of fiber and textiles, incorporated with rubber and vulcanized. S. Z. de Ferranti, Grindleford, Derbyshire.
 10,986 (1907). Felloe and rim for pneumatic tires. T. Dunn, London.
 11,118 (1907). Tire casing built up with outer plies of fabric at a greater tension than the inner one. G. Graham and W. Drury, London.
 *11,126 (1907). Side wire solid tire. J. A. Swinehart, Akron, Ohio.
 *11,150 (1907). Braiding machine with mandrel preferably endless and of flexible rubber tubing. A. J. Boulton, London. (G. H. Blakesley, Bristol, Connecticut.)
 11,190 (1907). Tire comprising an ordinary rubber cover enclosing a rubber cushion formed with projections entering the outer ends of helical springs. W. Stobbs, Newcastle-upon-Tyne.
 11,238 (1907). Spring wheel in which the tread comprises two or more inextensible hoops within a tubular rubber casing. A. L. Carbone, Berlin, Germany.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 9, 1908.]

- 11,355 (1907). Leather puncture preventing band to fit between the air tube and cover of tires. J. Cox, Tutbury, Staffordshire.
 11,394 (1907). Hose coupling. W. E. Kimber, Johannesburg, Transvaal.
 *11,399 (1907). Pneumatic tire carrying rim with detachable side flange. R. E. Jeffery, Piedmont, California.
 11,613 (1907). Pneumatic tire in which the air tubes and cover are formed in sections each secured to corresponding sections of a false rim, and the latter to a wheel rim proper. H. Marche, Fourmies (Nord), France.
 11,636 (1907). Pneumatic or solid tires having metal casing embedded into the tread. C. F. C. Morris and T. K. Z. Coburn, London.
 11,675 (1907). Pneumatic tire with puncture preventing band of overlapping steel plates between the air tube and cover. F. Brooke, G. Brooke, and T. Brooke, Wakefield, Yorkshire.
 11,690 (1907). Spring wheel with pneumatic tire. J. Fletcher, Churchtown, Lancashire.
 11,702 (1907). Solid tire held in channel rims by compression. J. A. Grant and V. E. Grant, Liverpool.

The International Rubber Exhibition.

THE EXHIBITION SUMMED UP.

ONE of the most pleasant and interesting of the social features of the International Rubber and Allied Trades Exhibition was the banquet at Pillar Hall, Olympia, on Thursday evening, September 24, at which Sir Henry Arthur Blake, G.C.M.G., president of the Exhibition, took the chair. There were more than a hundred guests, representative of the planting, crude rubber, and manufacturing interests, government commissioners, and members of the press—from Great Britain and the Continent, the Dutch and British East Indies, North and South America, and the West Indies.

The Editor of THE INDIA RUBBER WORLD, in responding to the toast "The Press," concluded his remarks with the following in regard to the Rubber Exhibition and its influence:

"I have already told you at other gatherings how the great exhibits, particularly those of Ceylon, Malay States, British West Indies, and Brazil have interested me. Now as to essays and discussions, they have been intensely interesting and particularly valuable from the rubber planting standpoint. But looking at them from the rubber manufacturers and rubber chemists' standpoint we face wholly different conditions. We say carelessly that there are no secrets to-day in the rubber trade, yet the trade is full of them—secret processes, compounds and machines. Not only that, but it often happens that two factories side by side, equipped with similar machinery, using identically the same compounds, with equally skilled help, and under the same management, are unable to produce the same quality of goods.

"A very complete industry is the rubber business; in fact, it is a series of widely varying industries. Insulated wire, hard rubber, mechanical rubber goods, footwear, surgical rubber, dental rubber, while basically the same, vary widely in compounding and manipulation before they become finished products.

"The expert in one of these lines usually knows little or nothing of the others and each of these lines is full of complexities and secrets.

"The rubber chemist, therefore, coming here to read a paper, is in honor bound not to talk about the secrets of the factory he represents, and he chooses a subject very general in its nature. The chief value of this great meeting of experts is not in the essays read, nor the speeches made, but in the meeting of such men as Kelway Bamber, a rubber planting chemist and expert,

and Dr. Torrey, a factory chemist and expert. Their private exchange of views is bound to be of value to each and result in the good to the trade at large. Thus the scores of manufacturers, planters, chemists and experts, who meet socially and talk informally, are the real leaven that will revivify and animate and solve the great inner mass of rubber problems that confront us to-day. Like the New England Rubber Club, it brings men of common purpose and identical interest into closer touch with one another, with great resultant good to all."

VINS

Rudesseimer Bosenberg

1899

G. H. Mumm & Co.

1900

DEUTZ & GELDERMAN

1898

Chateau Belair St. Emilion

1900

Liqueurs

CIGARS

Flor de Cuba

Sublimes

CIGARETTES

Quo Vadis

State Express

MENU DU DINER

Hors d'Œuvres à la Pamber

Consommé Olympique

Crème du Hevea

Turbot Coagulation

Para Ham in Substitute Jelly

Saddle of Mutton, Netherlands

Poularde de F. M. S.

Salade Crème de Latex

Poires à la Bresil

Friandises en Formadebade

Plantation Dessert

Café Mexico

TOAST LIST AT THE PILLAR HALL BANQUET.

His Majesty the King. Proposed by the Chairman.

Her Majesty the Queen, the Prince and Princess of Wales, and the other Members of the Royal Family.

The Rubber Industry.—Proposed by the Chairman. Response on behalf of the Rubber Growers by J. Loudoun Shand, Esq.

The Visitors. Proposed by Col. W. J. B. Sworth, chairman of the Executive Committee. Response by Louis Hoff, Esq., chairman of the German Rubber Manufacturers' Association, and N. H. Witt, Esq., commissioner for the State of Amazonas, Brazil.

The Technical Press.—Proposed by E. E. Buckleton, Esq. Response by H. C. Pearson, Esq., Editor of THE INDIA RUBBER WORLD, New York.

The Chairman.—Proposed by Norman Grieve, Esq. Response by Sir Henry A. Blake, G. C. M. G., President International Rubber and Allied Trades Exhibition.



THE SILVERTOWN COMPANY'S EXHIBIT.

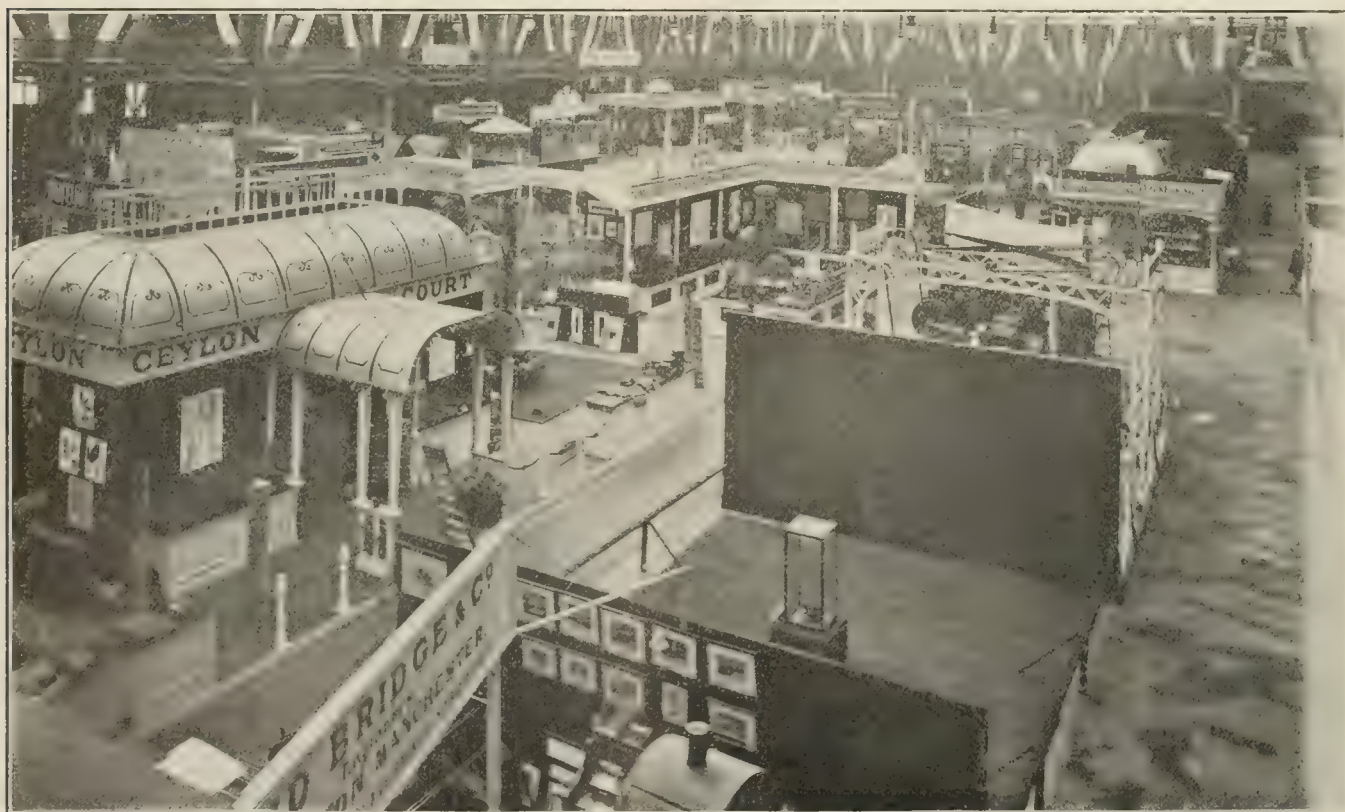


"MURAC" PAVILION AT OLYMPIA.



THE NETHERLANDS PAVILION AND MEMBERS OF THE COMMISSION.

[Viewed from left to right, the gentlemen appearing in the picture are A. G. N. Swart, LL.D., general commissioner; Dr. W. R. Tromp de Haas, of Java; H. S. J. Maas, Netherlands Consul-General at London; K. H. H. Van Benneken; Jac. Musly, of Weise & Co., Rotterdam; J. Pompe, of Amsterdam (seated); J. G. van Hemert; and J. Merens, of Merens Brothers, Haarlem.]



A GENERAL VIEW IN THE MAIN EXHIBITION HALL.
INTERNATIONAL RUBBER AND ALLIED TRADES EXHIBITION, AT OLYMPIA.



RUBBER EXHIBITS FROM BRITISH COLONIES.



A DISPLAY OF RUBBER MACHINERY.

THE NETHERLANDS COMMISSION DINNER.

THE Netherlands Commission for the International Rubber Exhibition gave a dinner at the Trocadero restaurant, London, Mr. H. S. J. Maas, presided. The guests included, besides the members of the commission, a number of the commissioners from other countries and colonies, and experts in rubber botany and chemistry. Among those present was the newly appointed Netherlands Minister to Japan, Sir Henry

Arthur Blake, and Director Prain, of the Kew gardens. The chairman said on hearing that Sir Henry Blake was to be president of the Rubber Exhibition, he strongly advised his government to be represented, and Dr. Swart, appointed as chairman of the Netherlands Commission, had done notable work in making its exhibit a success. Sir Henry Blake was among the speakers, as were also Dr. Tromp de Haas and Mr. Jac. Musly. The Editor of THE INDIA RUBBER WORLD responded to the toast "The Press."



DINNER OF NETHERLANDS COMMISSION FOR THE INTERNATIONAL RUBBER EXHIBITION.

The Continental Caoutchouc Works, at Hanover.

By Our British Correspondent.

FOR some years it has been customary for me at this season to write a few notes in reference to rubber matters which have come under my notice during my summer vacation on the continent. Certain country districts in Bohemia, in which the bulk of my time was spent this year, are briefly referred to in my regular correspondence this month, and I propose to devote the present article to the important works mentioned above, as I had the opportunity afforded me, when passing through Hanover, of making an inspection of the principal factory. It is hardly necessary to say that this was not accomplished in a few minutes, and I have to express my indebtedness to Herr Adolf Prinzhorn, the senior director, for my courteous reception and for the time he personally put at my disposal. This is by no means the first occasion in which these works have been referred to in *THE INDIA RUBBER WORLD*, and it would therefore be superfluous to enlarge particularly upon their evolution, capitalization and statistical position. Suffice it in this respect to say that, starting in 1872, with 200 men and a very modest capital, the company now have a capital of 4,200,000 marks [=about \$1,000,000], employ 6,000 hands exclusive of staff, and are almost the largest rubber manufacturing concern in the world, using, I am told, one-thirtieth of the total output of raw rubber.

Some eight miles off an additional factory has recently been completed, the great increase in the cycle and motor tire business being mainly responsible for its erection. In the Hanover factory about 6,000 cycle and motor covers are made per day in the busy season, in two rooms each 500 feet long. In this department I was interested to see at work the large fabric bias cutting machines which have taken the place of hand cutting, with marked economy. These machines are of German make, a remark which applies pretty generally to the machinery throughout the factory, with the notable exception of the fine sheet cutting machines, which emanate from Salford, Manchester. It appears that while the wired-on cycle tire cover is the type principally made for export, the beaded edge is the most popular in Germany. The inner tubes, both for cycles and motor tires, are all made in the seamless fashion by the tubing machine, red rubber being used much more extensively than grey in their manufacture.

Going back to the raw material, mention may be made of the extensive use of the holander in washing. The drying is all done by steam heat, the chambers being situated on the second floor. The management is not enamored of vacuum drying, rolling out thin and the use of exhausting fans enabling the drying by heat to be carried out expeditiously. The arrangements in the cut sheet department with regard to the freezing chamber for blocks and the cutting process are practically identical with those of the English firms engaged in this branch, and from what I was told, the Continental is

producing counts quite as fine as those of its old established competitors. The ball department was of special interest to me, because here I saw for the first time the patent ball-making machine of Wolcott and Ryder, who are connected with the New York Rubber Co. The patent rights for Germany are in the possession of the Continental company, and Mr. Prinzhorn expresses himself as perfectly satisfied with the working of the machines, which are much superior to earlier efforts in their direction, and show a great economy in production compared with hand labor. The exact composition of the rubber mixing is an important matter. The English rights for this machine are in the hands of a prominent north of England rubber firm, but I have no information as to whether it is being used. The number of balls auto-

matically made at one movement of the machine varies from four to eight, according to diameter. It should be mentioned that so far only hollow playing balls are being made by this machine, it not being considered accurate enough for lawn tennis balls, in the manufacture of which I noticed an amount of precision which rather surprised me. On the Continent and in the Colonies the uncovered red ball has a much greater vogue than in England, and I was not surprised to find numbers of them in process of manufacture. Space will not permit of my noticing all the departments I visited, but I cannot refrain from expressing my satisfaction at the complete freedom from bisulphide of carbon vapors of the air of the workroom in which a certain process of cold curing was being actively carried on. The German regulations, I was informed, are even stricter than those in force in Great Britain, but judging by the very perfect way in which the Continental company have overcome the difficulties involved it cannot be contended that the German



ADOLF PRINZHORN.

regulations are too onerous in a hygienic matter of such great importance. Glancing for a moment at the power department, it may be mentioned that considerable alterations have been made in recent years on up-to-date lines. Mechanical stokers



WORKS OF THE CONTINENTAL CAOUTCHOUC- UND GUTTA PERCHA COMPAGNIE.

are being fitted to the majority of the boilers, and the water tube boiler is largely in evidence. Two modern engines of 1,000 H. P. each are engaged in developing electricity, much of the power required in the departments being derived from electric motors. The baths, dining and recreation rooms for the work people are on lines which are tolerably familiar to those who are acquainted with German industrial procedure; in this department of a large factory I have for years remarked the superiority of Continental countries as compared with Great Britain, though in several cases a great improvement is now noticeable in the latter country. It seems that no less than 3,000 liters of white coffee are given out daily at certain definite times to work people who ask for it. This is quite a recent departure, and at first a small charge was made for the refreshment. The coffee is now given free and the general result has been to diminish the amount of beer drunk at meal times.

Knowing as I do with what energy the Germans are tackling rubber chemistry I was not altogether surprised to be shown a research laboratory inhabited by two doctors of chemistry who devote themselves exclusively to research work, and in passing I cannot refrain from expressing the opinion that men with the financial resources of such a concern behind them and with no other business to attend to, are more likely to achieve important discoveries than are those rubber enthusiasts who take on rubber as one subject in a general practice. I say that because I was recently told at Olympia that the discoveries of the future will come from outside the rubber factory. In addition to this research laboratory there is also the works laboratory, where routine tests and analyses are carried out. It will be seen then that the scientific side of the industry is receiving full attention, as is now the rule at large Continental factories. Moreover, in contradiction to what obtains in most of our British works, the managing director has familiarized himself with rubber chemistry up to date and can explain the complicated apparatus of the research laboratory with the lucidity that characterizes his description of the factory plant with which he has for so long been familiar.

It is hardly necessary, in writing for INDIA RUBBER WORLD readers, to point out how varied are the products of the works at Hanover, embracing as they do almost everything made of rubber except footwear.

NEW TRADE PUBLICATIONS.

THE L. & M. RUBBER WORKS (Carrollton, Ohio), issue a catalogue of Drug Sundries, Molded, Seamed, and Dipped Goods, under the "Buckskin" brands, which is interesting and attractive, and more than ordinarily complete for a new concern. [6" x 9". 28 pages.]

FRED. MEDART (St. Louis), one of the longest established manufacturers of gymnastic apparatus in the country, sends a booklet, "What Others Say," filled with testimonials in regard to the Medart supplies, several of which have been described in these pages as being composed to an important extent of india-rubber. [3½" x 6¼". 24 pages.]

NEW YORK INSULATED WIRE CO. (New York) issue their price list No. 22 of "Raven Wire Core" Rubber Covered Wires and Cables, giving prices on rubber-covered wires on the various copper bases, from 11 cents to 21 cents, and including various tables which will be found of service.

SYRACUSE RUBBER CO.—F. C. Howlett, president and treasurer (Syracuse, New York), issue their most elaborate catalogue—to date—of Druggists' Sundries. It is profusely illustrated and gives prices of the products of leading manufacturers. [6¾" x 9½". 200 pages.]

THE NORTH BRITISH RUBBER CO., LIMITED (Edinburgh), as everybody in the trade knows, have figured to an important extent in the supplying of rubber footwear to the Oriental trade, and particularly to China. Everybody in the trade, however, may not have seen the exceedingly interesting posters on a large scale got out by the North British company for use in China—posters involving Chinese artistic ideals, with lettering in Chinese, and views of interiors of Chinese shoe stores and the like. One of these posters embraces a Chinese calendar for a year, and all of them contain pictures of the peculiar styles of waterproof footwear required in the markets of China. If any trade publication that has reached THE INDIA RUBBER WORLD during the past 20 years is entitled to the designation "unique," we readily give the palm to the North British Rubber Co.'s Chinese posters.

ALSO RECEIVED.

DR. H. ROBINSON, Waco, Texas—Hygienic Masscur. 12 pages.

Stewart & Hallihan, 210 Broadway, New York—[Catalogue (No. 34, 1908). Rubber Stamps.] 32 pages. Also: Price List. 4 pages.

Healy Leather Tire Co., New York. Healy Rims and Tires. 32 pages.

The S. S. White Dental Manufacturing Co., Philadelphia. Bread and Butter Goods. 10 pages.

The H. J. M. Howard Manufacturing Co., Washington, D. C.—Howard Swinging Hose Racks. Catalogue 1907-1908. 20 pages.

Myers Manufacturing Co., Fremont, Ohio—"Costa" Druggists' Rubber Sundries. 20 pages.

B. F. Sturtevant Co., Boston.—Bulletin 150—Generating Sets. 8 pages.

W. W. Winship, Boston.—Automobile Trunks and Equipments. 20 pages.

Voorhees Rubber Manufacturing Co., Jersey City, New Jersey.—Big Game. [Large goods in mechanical rubber.] 12 pages.

The Cleveland Galvanizing Works Co., Cleveland, Ohio.—Cleveland Pump Chain and Rubber Pump Buckets. 8 pages.



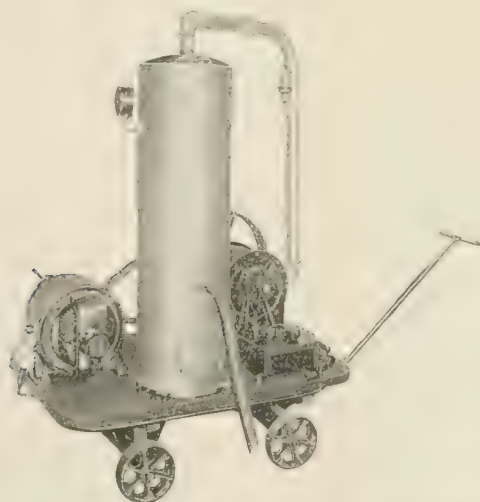
"THE INDIA RUBBER WORLD'S" STAND AT OLYMPIA.

[From left to right: Mr. A. Staines Manders, organizing manager; Mr. Henry C. Pearson; Colonel W. J. Bosworth, chairman of the executive committee; Mr. Richard J. Hoffman, of Rubber Growers' Exhibition Committee; Mr. S. P. Gifford, THE INDIA RUBBER WORLD. (Pages at the desks.)]

It is authoritatively announced that another international rubber exhibition will be held in 1910.

New Rubber Goods in the Market.

WHEN the number of railway cars is considered, and the necessity for keeping passenger cars in sanitary condition, it will be seen how large a contract would be involved in merely undertaking to supply apparatus for cleaning all the cars in the country. A distinctive feature of the device illustrated here is that it may be employed to utilize the compressed air with which every steam or electric railroad is equipped. Where a compressed air plant is not permanently installed this cleaner may be operated from the air brake pump of any electric car by simply attaching it by means of a hose to the brake reservoir. By means of this system a car may be stopped at any place, the cleaner attached to the air brake line



ELECTRIC DRIVEN VACUUM CAR CLEANER.

and the car cleaned in 10 or 15 minutes at a cost not exceeding 2 cents for power. The vacuum producer is connected to the compressed air supply (either pipe line or air brake reservoir on car) by means of a compressed air hose. The vacuum hose is connected to the side of the tank and the other end to which the tools are attached is taken into the car. The compressed air is turned on and regulated by the valve on the vacuum producer until the proper vacuum is obtained. The cleaning tools are passed over the seats and other articles to be cleaned until all the dirt is removed. The same general system is employed in cleaning apparatus for office and household use involving a stationary compressed air plant. [The National Vacuum Cleaning Co., Dayton, Ohio.]

"FEEL FINE" AIR HEELS.

AMONG the specialties offered to the trade by the Consolidated Manufacturing Co. (Hartford, Connecticut) are the "Feel Fine"

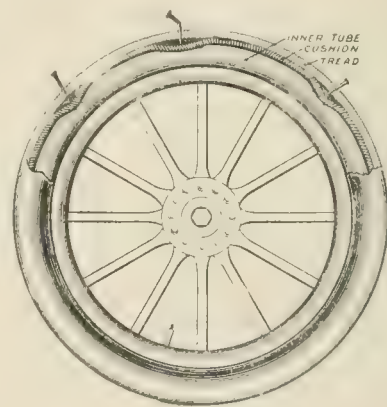


"FEEL FINE" AIR HEELS.

air heels. These heels are pneumatic cushions of high grade rubber for wearing inside the shoe. They are of rubber so prepared that they contain horseshoe shaped channels, medically sealed, but filled with air, and they are covered with a sock lining of kid, so arranged that by placing them inside the shoe they are at once cemented in the heel seat. It is claimed by the manufacturers of this heel that the air-filled channels produce a resiliency not to be found in the same degree in any other rubber heel. It is also claimed that the connection between the air channels largely obviates the tendency to "running over."

COX TIRE CUSHION.

THIS illustration relates to a cushion to be placed between the inner tube and the shoe of all types of pneumatic tires for automobiles. It is made of felt and fabric. It is designed to help in stopping punctures and blow-outs, to prevent inner tubes from chafing or being pinched, to keep the tire cool in hot weather, and in various ways to make tires last longer. Any one can apply the cushion. It is pointed out that where it is used smaller inner tubes may be bought, which means a saving in cost. [David H. Cox, Rahway, New Jersey.]



COX TIRE CUSHION.

ROBINSON'S HYGIENIC MASSEUR.

THE illustration herewith relates to a small device or outfit patented by Dr. H. Robinson, of Waco, Texas, for massaging the eyes, eyelids, lips, and the like; it is designed to serve also



ROBINSON'S HYGIENIC MASSEUR.

as a respirator or lung developer, a nasal or ear syringe, and for other purposes. The numbers in the half-tone shown relate to uses of the outfit as follows: (1) Interior view of receptacle and appliances when not in use; (2) eye bath; (3) massage cup

for eyelids and lips; (3) massage cup for eyeballs and face; (5) superfluous flesh reducer; (6) nasal syringe; (7) ear syringe; (8) nasal inhaler; (9) respirator or lung developer; (10) blackhead extractor.

"E-Z WAVE" HYGIENIC HAIR CURLER.

THIS little novelty, designed especially for making the "French wave"—whatever that may mean in hairdressing—is made wholly of rubber. It is hence wholesome and easily kept clean, besides being light, in addition to the flexibility which renders its use comfortable. It is referred to as being a good seller. [Hygienic Hair Waver Co., New York.]



"E-Z WAVE" HAIR CURLER.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

IN speaking of the conditions of business it is usual with men in the rubber trade to begin by saying that conditions, especially in the mechanical lines, are very quiet, and then after a little reflection they go on to say that on the whole business is fairly active and getting steadily better. They are all confident that the very quiet times are at an end and that, no matter how slow it may appear at times, there is no danger whatever of a repetition of the apathy which was so evident during some of the months following the financial panic. As for the houses which deal in rubber clothing and shoes, the season has opened up with a few rains, so that business is quite good, but the strictly mechanical rubber houses find that business is slow and they do not expect things to become really flourishing until early spring. Very little talk is directed towards the coming presidential election, either because people are certain of the outcome, or because less importance is attached to the outcome than has been the case in former years, and the fact that the election time is approaching is not given as a very important reason for times being as quiet as they are. On the whole it may be said that the rubber business on the coast is fairly good, and that there has been a steady improvement during the past month, which is not at all likely to suffer a relapse.

Business with the Bowers Rubber Works is said to be very favorable, and the factory is running full handed. This firm has been shipping a goodly quantity of goods to the Orient. Mr. C. O. Bowers, the present superintendent of the factory at Black Diamond, has gone on East for a month's vacation trip. Mr. H. A. Cushman, the former superintendent of the works, died recently.

Mr. Gurr, representative of the W. D. Allen Manufacturing Co. (Chicago), has been visiting the trade of the Coast, and has recently spent a few days among the rubber merchants of San Francisco.

Mr. Jennings, representing the H. B. Sherman Manufacturing Co., of Battle Creek, Michigan, is now making the rounds of the local trade in the interests of his house.

Mr. McIlroy, Eastern traveling representative from the Lake Shore Rubber Co. (Erie, Pennsylvania), is now in San Francisco, placing business for his firm.

The report from the Gutta Percha and Rubber Manufacturing Co., on First street near Mission, is that business, though still quiet in mechanical lines, is gradually moving forward, and is now working up pretty well. C. H. Brown, of this company, is now in the Northern territory in the interests of the firm.

The Plant Rubber and Supply Co. report that they are waiting for the spring business, and do not expect a very great business before that time. Trade is quiet, but it has been much worse than it is at the present time, and the outlook is favorable for a good year after the first of January.

Mr. R. H. Pease, president of the Goodyear Rubber Co., has recently returned from an extended trip to Portland, Oregon, where he found that business has been improving every week. "The same can be said of San Francisco," he said. "We are waiting for the heavy rains, and if they will come early it will give us a splendid business, as the retailers throughout the country are in a flourishing condition, the only trouble being that they are now pretty heavily stocked up, and a few good rains will enable them to sell off some so that they could increase their orders. The mechanical business is improving and as soon as there is enough water in the mountains to work the mines we look for a big increased business in that direction."

Mr. H. C. Norton, of the Pacific Coast Rubber Co., at 418 Mission street, states that business is increasing gradually and satisfactorily. He announces that on the first of November his firm will take over the lines of the Peerless Rubber Manufacturing Co., for the Pacific coast, including the well-known "Rain-bow" sheet packing.

Mr. McNeilly, manager for the Barton Packing and Rubber Co., at No. 533 Howard street, states that this month has resulted in a very good business; in fact, a big improvement, and if it would only keep up, he would have no fault to find at all.

The Phoenix Rubber Co. are now settled in their new location on First street, between Mission and Howard, and very commodious and convenient quarters they are. Mr. Kanzee, one of the proprietors, is away for an extended trip in the Eastern states, among the manufacturers. Mr. Ralph, his partner, is away at the present time for a short trip in Santa Rosa, California.

Mr. Sargeant, local manager of the Gorham Rubber Co., reports: "Our business is improving steadily, and we feel perfectly satisfied that by the beginning of the new year, not later than February, the good old times will be revived. In fact, nearly all of the rubber men are pinning their hopes on February as the month which will see the biggest change for the better of any we have yet had. Our collections are good and money seems to be coming in better all round." Mr. Gorham is in Los Angeles on business, and Mr. Parrish, sales manager, is still in the Orient looking after trade.

Mr. Perkins, of the Sterling Rubber Co., on Second street, states that business is spasmodic, there being a week or two of good business followed by almost a perfect vacuum. It is not normal yet, he says, not as good as it should be at this time of the year, and still it is much better than it has been, and is getting better. Goods that can be used in the holiday trade are having a big run and the holiday trade will be as good as in the best of years. For the other rubber lines there will not be much improvement until after the first of the year.

L. L. Torrey, manager of the Pennsylvania Rubber Co., is now away on his Eastern trip, and is expected to return to this city within two or three weeks.

C. E. Mathewson, Pacific coast manager of The Diamond Rubber Co., states that this firm will select a new location for its uptown branch, now out on Golden Gate avenue. The branch has for a long time been located in a temporary frame building, but the new location, will also be out on Golden Gate or near it, and in the vicinity of Van Ness avenue. Mr. Mathewson is preparing to take a run down to Los Angeles to look after the branch store in that city. J. E. Argus, who has charge of the firm's mechanical department, will also go to Los Angeles to look after the mechanical lines there.

Automobile tires are reaching such a state of perfection in the manufacture, that whereas in automobile meets and races a certain large percentage of accidents were anticipated as a result of defective tires, statistics show that no accident has happened on this Coast this year during the racing season on account of faulty tires. Attention may be called in this connection to the large number of automobiles in this part of the country in proportion to the population.

News of the American Rubber Trade.

AFFAIRS OF THE UNITED STATES RUBBER CO.

THE United States Rubber Co. are reported to be considering a plan for a long term note issue for the purpose of taking up the \$4,500,000 Boston Rubber Shoe Co. debentures and \$8,000,000 of United States Rubber Co. refunding notes, and increasing the company's working capital. The refunding notes fall due in September, 1909, and the Boston Rubber Shoe Co. debentures in September, 1910. Either issue, however, can be retired at par on any interest date. The United States Rubber Co. were reported lately to be operating to 80 or 85 per cent. of their normal capacity.

NEW YORK BELTING DEBENTURES.

NOTICE has been given of the drawing of 310 debenture bonds of £100 each of the New York Belting and Packing Co., Limited, for redemption in accordance with the condition of the sinking fund contained in a deed of trust of the said company to the Knickerbocker Trust Co., dated February 9, 1891. Payment of the bonds is to be made on or after January 1, 1909, at the rate of \$533.50 for each bond. The company on becoming an English corporation, in 1901, issued 6 per cent. sterling first mortgage debentures to the amount of £225,000 [= \$1,094,962.50]. The amount to be retired as above stated is \$150,861.50. The amount still outstanding is not now possible to state.

NEW JERSEY RUBBER SPECIALTY CO. SOLD.

THE plant and business of the New Jersey Rubber Specialty Co. (Milltown, N. J.) has been sold to the J. Elwood Lee Co., of Conshohocken, Pennsylvania. Clement E. Eckrode, one of the proprietors and hitherto manager of the Specialty company will, it is understood, continue the plant in operation for some time under the new management, after which the business will be transferred to Conshohocken. The J. Elwood Lee Co. are understood to be controlled by Johnson & Johnson, of Milltown, so that the new deal marks another step in the extensive operations of this great drug firm. It is assumed that the plant of Specialty company will in time be absorbed by the Michelin Tire Co., whose extensive works it adjoins.

WILKIE RUBBER MANUFACTURING CO.

THE Wilkie Rubber Manufacturing Co. (Lynn, Massachusetts), the incorporation of which was reported in the last INDIA RUBBER WORLD, are to succeed the Spinney-Wise Co., of the same city. About 19 years ago the firm of Nulchur & Spinney became Spinney, Virtue & Co., through the entrance of George H. Virtue. He retired in 1896, and the firm became reorganized as Spinney, Wise & Co., Mr. Wise having been in management of the factory. The business was incorporated July 31, 1905, as the Spinney-Wise Co., with Robert J. Wilkie president—a position which he will fill in the new corporation. They are manufacturers of hard and soft rubber goods for mechanical and electrical purposes. It is understood that the factory will be removed to Saugus, Mass.

HUTTON & LAPWORTH STARTING.

THE electric webbing factory of the new firm of Hutton & Lapworth, at Brockton, Massachusetts, is now in readiness, on the premises occupied at one time by the Standard Rubber Co. The members of the firm are Fred W. Hutton, formerly of the Old Colony Rand Co., of Brockton (who will have charge of the selling department), and Charles Lapworth, formerly of William Lapworth & Sons, of Milford, Mass. (who will be in charge of the manufacturing). All the machinery will be operated electrically. [The Standard Rubber Co. started in a small way in 1881 in the manufacture of rubber clothing and gradually built up an important business. They were reorganized successively as the Standard Co. and the Standard Rubber Corpora-

tion, and made an assignment at the end of 1900. The manufacture of rubber clothing was never revived on the premises, which have been for the most part idle until now.]

FACTORY EXTENSION AT WALPOLE.

THE Massachusetts Chemical Co. are building an addition to their factory at Walpole, Massachusetts, comprising some 15,000 square feet of floor space, to accommodate their insulating tape department, which continues to grow. The tapes manufactured by this company, as a result of close attention to the needs of the electrical trade backed up by patient research work in the laboratory and the coöperation of a well-equipped plant, have been for many years well and favorably known for their high initial and permanent quality.

BERRODIN RUBBER CO. (PHILADELPHIA).

THE Berrodin Rubber Co. have been incorporated under the laws of Pennsylvania, with \$10,000 capital. They have bought out the Philadelphia Auto Tire and Rubber Co., a partnership consisting of Sanders Levy, Jeannette, Pa., and Frank Berrodin and Saul Levy, of Philadelphia, and their branch at Buffalo, New York, and will continue their G & J tire agency in the two cities. The officers of the Berrodin Rubber Co. are: W. A. MacCalla, president; Sanders Levy, vice-president; H. K. Buck, secretary; Frank Berrodin, treasurer and general manager. The object of the company is to sell and repair automobiles and bicycle tires, and to add in the near future the sale of a full line of mechanical rubber goods. The Philadelphia address is Nos. 713-715 North Broad street; that of the Buffalo branch, No. 912 Main street.

UNITED STATES RUBBER CO.—DIVIDENDS.

THE board of directors of the United States Rubber Co. on October 1 declared from net profits a quarterly dividend of 2 per cent. on the first preferred stock, and a quarterly dividend of 1½ per cent. on the second preferred stock of the company, payable October 31.

TRADE NEWS NOTES.

THE Diamond Rubber Co.'s new Boston branch, of which a view appears in another column, is one of the largest rubber stores in existence, carrying not only their rubber tires in stock, but other products of the factory.

THE Goodyear Rubber Co., at the beginning of the month started their rubber shoe factory at Middletown, Connecticut, on a full time schedule, after having been running at a reduced rate during the summer.

MR. E. H. Cutler, for many years connected with the rubber footwear trade, has become treasurer of The Consolidated Manufacturing Co. (Hartford, Connecticut), among whose special products are the "Feel Fine" air heels.

I. B. Kleinert Rubber Co. (New York) have been allowed a customs drawback on dress shields made by them in part from "garment," "garment silk," and "garment double silk," amounting to 99 per cent. of the import duties collected on the goods referred to.

THE Quaker City Rubber Co. (Philadelphia) are reported to be having estimates made on a one-story addition to their plant 60 x 138 feet.

THE Republic Rubber Co. (Youngstown, Ohio) have completed an important order for fire hose for Peoria, Illinois, which was sent by express in view of the pressing necessity for the supplies.

THE Seamless Rubber Co. (New Haven, Connecticut) are to make an addition to their plant by the erection of a one-story brick building, 90 x 200 feet, on Congress avenue, to be used as a shipping office.

UNITED STATES RUBBER CO.'S SHARES.

TRANSACTIONS on the New York Stock Exchange for four weeks, ending October 24:

COMMON STOCK.

Week October 3	Sales 1,000 shares	High 31	Low 30
Week October 10	Sales 1,600 shares	High 32	Low 30 $\frac{3}{4}$
Week October 17	Sales 1,370 shares	High 32 $\frac{1}{2}$	Low 31
Week October 24	Sales 6,250 shares	High 35 $\frac{1}{8}$	Low 32 $\frac{1}{2}$

For the year—High, 37 $\frac{1}{2}$, Aug. 7; Low, 17 $\frac{1}{2}$, Feb. 26.
Last year—High, 52 $\frac{1}{2}$; Low, 13 $\frac{1}{4}$.

FIRST PREFERRED STOCK.

Week October 3	Sales 300 shares	High 100	Low 99 $\frac{1}{2}$
Week October 10	Sales 943 shares	High 101 $\frac{1}{2}$	Low 101
Week October 17	Sales 1,597 shares	High 101 $\frac{3}{4}$	Low 100
Week October 24	Sales 1,200 shares	High 100 $\frac{7}{8}$	Low 100

For the year—High, 102 $\frac{3}{4}$, Aug. 7; Low, 76, Feb. 19.
Last year—High, 109 $\frac{3}{4}$; Low, 61 $\frac{1}{4}$.

SECOND PREFERRED STOCK.

Week October 3	Sales 145 shares	High 68	Low 68
Week October 10	Sales 200 shares	High 68	Low 68
Week October 17	Sales 200 shares	High 69 $\frac{1}{2}$	Low 68
Week October 24	Sales 50 shares	High 67 $\frac{1}{2}$	Low 67 $\frac{1}{2}$

For the year—High, 74, Aug. 7; Low, 42, Feb. 21.
Last year—High, 78 $\frac{1}{8}$; Low, 39.

RECLAIMING RUBBER AT ERIE.

THE Continental Rubber Works (Erie, Pennsylvania) have taken on the reclaiming of rubber, with such results, it is understood, that they feel encouraged to enlarge their capacity for this production in the near future very materially. They have placed orders for additional machinery to increase their output of reclaimed rubber with a view to more than doubling the same within the next month or so. By the time the equipment now being installed is completed they expect to be sending out 20 tons per day.

NEW INCORPORATIONS.

RUBBER B. B. Co., October 24, 1908, under the laws of New Jersey; capital authorized \$25,000. To manufacture rubber specialties and engage as mechanical engineers, etc. Incorporators: Isidore Schwartz, Hyman Davidson, and Joseph B. Bloom—all of Newark, N. J.

The Safety Tire Co., October 17, 1908, under the laws of Maine; authorized capital \$2,000,000. To manufacture and deal in rubber tires. Clarence E. Eaton and T. L. Croteau, of Portland, Me., are respectively president and treasurer.

Leolastic Co., October 15, 1908, under the laws of New Jersey; authorized capital, \$1,000,000. The object of the company is stated to be the manufacture of rubber goods, and a building is being erected at Bayonne, N. J., to which will be removed a business now carried on at Fall River, Massachusetts. Incorporators: George H. Makepeace and Montgomery D. Coleman, both of No. 120 Broadway, New York, and J. Milton Ferry, Bayonne, N. J.

Non-Blow-Out Auto Tire Co., October 12, 1908, under the laws of New Jersey; authorized capital, \$500,000. Incorporators: Edward D. Birkholz, Frederick R. Tyrell and Robert S. Terhune—all of No. 812 Broad street, Newark, N. J.

Berrodin Rubber Co., October 10, 1908, under the laws of Pennsylvania; capital, \$10,000. To deal in rubber tires in Philadelphia and elsewhere. Further details appear in another column.

Pennsylvania Rubber and Supply Co., October 10, 1908, under the laws of Ohio; capital, \$12,000. Incorporators: Edward J. Hobday, Eugene Quigley, Frederick A. Whittemore, E. M. Landphair and William J. Wilson. Location of business, Cleveland, Ohio.

Automobile Tire Co., October 20, 1908; capital, \$10,000. Directors: Edward C. Griffith and Mary T. Griffith, No. 1584 Broadway, and George L. Lewis, No. 42 Broadway, New York.

Preston Fabric Tire Co., October 16, 1908, under the laws of New York; capital, \$100,000. Directors: Christian Wesp, Morris R. Evans and James F. Preston—all of Buffalo, N. Y.

White Tire Co., October 16, 1908, under the laws of New York; capital, \$250,000. Incorporators: L. L. Stein, L. L. Doblin and N. Coleman, New York city, and E. P. White, Chicago.

Maumee Rubber Co., September 30, 1908, under the laws of Ohio; capital authorized, \$25,000. Incorporators: William H. McClellan, Jr., Conrad Weil, Stella M. Hughes, Fannie E. Turner, and William R. Hodge. To conduct a retail rubber goods store at Toledo, Ohio, with Albert E. Wentz, manager.

Hygrade Rubber Bicycle and Automobile Supply Co., October 17, 1908, under the laws of New York; capital, \$10,000. Directors: Arthur W. Rood, Troy, N. Y.; Percy B. Whitmore and George M. Post, New York city. Location of business, Troy.

The Rickert Rubber Co., October 9, 1908, under the laws of Ohio; capital, \$20,000. Incorporators: Thomas Rodgers, George W. Williams, Edward P. Rickert, W. L. White and John G. Rhonehouse. Location of business, Cleveland, Ohio.

Sectional Rubber Tire Co., August 24, 1908, under the laws of Massachusetts; capital, \$50,000. Incorporators: Frank E. Hall, Wollaston, Mass.; Albert H. Cushing (treasurer), Brookline, Mass.; Warren T. Simpson (clerk), South Weymouth, Mass.

The Bayne-Subers Tire and Rubber Co. (Cleveland, Ohio), a new concern mentioned already in these pages, have filed a certificate of increase of their authorized capital from \$5,000 to \$100,000 in view of a projected increase in the scope of their business.

TRADE NEWS NOTES.

The report of Mr. Lucius C. Ryce, receiver of the Seward Rubber Co. (Berlin, Connecticut), accepted by the superior court at Hartford on October 16, shows that a 50 per cent. dividend has been paid to schedule A creditors, amounting to \$11,451.69, and a small amount to schedule B creditors. The balance in hand will permit a final dividend of a few cents on the dollar.

The National India Rubber Co. (Bristol, Rhode Island) are reported to be in receipt of good orders for rubber shoes and of tennis goods—the production of which began on October 19—together with increased work in the insulated wire and other departments.

The steamer *Cearense*, which arrived at New York from Pará on October 9, brought 1,798 cases of rubber, worth at prevailing prices, considerably more than \$1,000,000, or more than double the value of the average cargo brought in by transatlantic liners.

The dismantling of the plant of Milford Rubber Co. (Milford, Massachusetts), the closing of which has been mentioned already in these columns, has now been practically completed, the outfit having been disposed of to several other rubber manufacturing concerns.

The Fisk Rubber Co. (Chicopee Falls, Massachusetts) have called to their offices Mr. George A. Campbell, for some years their local manager in Boston, and Mr. Fred H. Ayers, formerly associated with Mr. Campbell, has been appointed Boston manager.

The factory of The B. F. Goodrich Co. (Akron, Ohio) has lately been employed 23 out of 24 hours of the day, in order to keep up with the orders received for their product.

The Firestone Tire and Rubber Co. (Akron, Ohio) have removed their Boston branch from No. 9 Park square to No. 145 Columbus avenue. Mr. T. J. Glenn remains branch manager at Boston.

Mr. Otis R. Cook, who has become general manager of the tire department of the Federal Rubber Co. (Cudahy, Wisconsin), had filled a similar position for two years previously with the Firestone Tire and Rubber Co. (Akron, Ohio), following a connection of 12 years with The B. F. Goodrich Co. Mr. Osborne S. Tweedy, formerly in the employ of The Diamond Rubber Co., will be associated with Mr. Cook as manager of tire sales.

The Federal Rubber Co. (Milwaukee, Wisconsin) are making automobile tire covers of the regular G. & J. type.

EX-GOVERNOR BOURN'S BIRTHDAY.

ON the evening of October 1, ex-Governor Augustus O. Bourn, of Rhode Island, gave his customary birthday dinner. For many years it has been a custom for the ex-Governor to gather around his table a few of his friends. Several members of his staff who served him faithfully when he was governor, joined in wishing his health, as also did his two sons, Augustus O. Bourn, Jr., and Stephen Bourn, who are associated with him in business. The dinner was a typical Italian dinner, such as the governor was accustomed to give in Italy when he entertained officially while residing in Rome as consul-general.

PERSONAL MENTION.

MR. FRANK PEGLER, the head of the long established Northern Rubber Co., of Retford, Nottingham, England, has been a visitor recently to United States. Mr. Pegler has been a member of the general committee of the India-Rubber Manufacturers' Association of Great Britain since the beginning of that organization, and served as chairman of the association for the year 1904. Mr. Pegler was in attendance at the recent International Rubber Exhibition at Olympia, where his company made an interesting display.

Mr. Ernest E. Buckleton, manager of the Northwestern Rubber Co., Limited, Litherland, Liverpool, has been making a visit on business to United States, going as far west as Akron, Ohio.

Mr. Henry C. Pearson, Editor of THE INDIA RUBBER WORLD, who was lately in attendance at the International Rubber Exhibition at Olympia, London, sailed for America on October 29.

Mr. Wilfred A. Joubert, for some years identified with the balata interest in Dutch Guiana, on which he wrote at length in THE INDIA RUBBER WORLD, is now manager for the United States Banana Co., at Salto del Agua, Mexico.

Mr. A. T. Hopkins, superintendent of the Boston Woven Hose and Rubber Co., is on the list of lecturers upon "Problems of a Livelihood," to be delivered this season before the Young Men's Association at Cambridge, Mass.

TRADE NEWS NOTES.

THE American Circular Loom Co., one of whose plants was destroyed by the great fire at Chelsea, Massachusetts, a few months ago, announce that their new factory at North Cambridge, Mass., is now ready and equipped throughout with modern and improved machinery for the manufacture of their "Circular Loom" product for electrical wiring purposes.

Recent heavy rains in the vicinity of Plymouth, Massachusetts, led to considerable damage by high water. At the Chiltonville factory of the Boston Woven Hose and Rubber Co. the brick wall of a new addition to the plant in progress of construction was undermined, causing a loss of several thousand dollars.

Charles E. Miller, No. 1829 Euclid avenue, Cleveland, Ohio, will distribute "Continental" tires and demountable rims for that city and its vicinity.

O'Sullivan Rubber Co. (Lowell, Massachusetts), state that rubber heels made by them were worn by John J. Hayes in winning the Marathon race in London—one of the most notable of modern international athletic contests.

A petition in bankruptcy has been filed against the Baker Motor Vehicle Co., of New York, by counsel for three creditors, including a tire manufacturing company. James N. Rosenberg has been appointed receiver, with authority to continue the business for the present. The company was incorporated in August, 1907, to act as New York agents for the Baker Motor Vehicle Co., of Cleveland, Ohio.

T. Martin & Brother Manufacturing Co. (Chelsea, Massachusetts) have commenced the erection of an addition to their elastic fabric factory—brick and concrete, 60 x 100 feet.

The Apsley Rubber Co. (Hudson, Massachusetts), since the first of the past month, have been running their factory full time and full ticket.

TRADE NEWS NOTES.

THE Fisk Rubber Co. (Chicopee Falls, Massachusetts), on account of increased business, have found it necessary to secure larger quarters in Minneapolis, Kansas City and Seattle. In each of these cities they have completed arrangements for the erection of new buildings, designed to be ready for occupancy before the end of the year.

The Lycoming Rubber Co. (Williamsport, Pennsylvania) on September 25 completed the first quarter century of their history. It is stated that the Lycoming company to-day include among their customers several jobbers who started to handle their goods 25 years ago.

The Imperial Rubber Manufacturing Co. (Canton, Ohio), who have specialized in seamless goods in the past, have added to their output of druggists' sundries a line of seamed syringes and water bottles.

A petition in bankruptcy has been filed against Charles A. Duerr & Co. (corporation), selling agents for automobiles at No. 2182 Broadway, New York, by an attorney for three creditors in the tire trade. Lindsay Russell has been appointed receiver. The corporation was formed in May, 1903, with \$5,000 capital, increased later to \$30,000 capital. The liabilities have been referred to as about \$100,000, with much smaller assets.

GOODYEAR TIRES ON THE PACIFIC COAST.

THE W. D. Newerf Rubber Co. (Los Angeles, California) have largely increased the scope of their business, now having the agency for the tires of the Goodyear Tire and Rubber Co. for all territory west of the Rocky mountains, and also British Columbia. In addition to their main establishment at No. 932 South Main street, Los Angeles, they have a branch house at No. 506 Golden Gate avenue, San Francisco, and also agencies at Portland, Seattle, Fresno, Bakersfield, San José and San Diego, and more agencies are to be placed at important towns between Vancouver and San Diego.

"CONTINENTALS" TO WITHDRAW FROM LOCAL RACING.

MANAGER GILBERT, of the Continental Caoutchouc Co. (New York), states that the numerous races held these times so greatly interrupt their regular routine work that they are compelled to withdraw their support from the sport. Mr. Gilbert states that in every race they have taken twice as many cars as expected owing to their fine facilities for racing and the reputation of "Continental." In the large races, like Savannah, they cannot very well withdraw as customers of long standing demand their service.



THE DIAMOND RUBBER CO.'S NEW BOSTON BRANCH.

[Nos. 219-223 Columbus avenue.]

THE COTTON GOODS MARKET.

THE season's contracts for hose and belting duck have been consummated at prices much lower than those of last season. From what can be learned at this time, it would seem as though the demand for the coming season will be extensive. The rubber shoe trade have contracted for a sufficient quantity of fabric to carry them well into next season.

The manufacturers of automobile tires have had an exceedingly prosperous season, and in anticipation of greatly increased business for next year have contracted ahead for Sea Island and Egyptian fabrics. The expected demand for the coming season will probably render the supply inadequate.

Review of the Crude Rubber Market.

BEGINNING early in the past month, there has been a steady advance in prices, extending to practically every grade on the New York market. There have been rumors of "short sales" in England, particularly of Pará grades, with the usual concomitant of stiffer prices at settling time. The statistical position of rubber, however, would seem to point to a higher normal price level than has prevailed for some time past, especially as the trade looks forward to increased activity of the rubber factories in the near future as a necessity. Manufacturers have not been active buyers at the advanced prices, orders coming principally from the class who do not keep large stocks at factory, and are therefore obliged to buy constantly to cover their requirements.

The monthly inscription sale at Antwerp took place on October 20, when most of the 540 tons offered found buyers at an advance reported as averaging 90 centimes per kilogram, or nearly 8 cents per pound.

Arrivals at Pará during October (up to the 28th) amounted all told to 3,100 tons, against 3,200 tons for the whole of October last year. Arrivals for the crop year have been 8,655 tons, against 8,480 tons for the same months in 1908, 8,630 tons in 1907, and 8,530 tons in 1906.

The decline in the price of Brazilian rubber during the past year has had a depressing effect upon the revenues of the rubber producing states, all of which levy an *ad valorem* export duty on the product. There are no exact figures as to the effect on the regularly organized states, but returns have been published for the Federal district of the Acre, which show the revenue from rubber for the first quarter of 1908 to have been only 4,226,274 milreis, against 6,408,962 for the first quarter of 1907—a decline of 34 per cent. The smaller sum named here, converting the milreis at 15 per cent., equals \$1,288,708, gold.

Following are the quotations of New York for Pará grades one year ago, one month ago, and October 30—the current date:

PARÁ.	Nov. 1, '07.	Oct. 1, '08.	Oct. 30.
Islands, fine, new.....	91 ¹ / ₂ @ 92	94 ¹ / ₂ @ 95	103 ¹ / ₂ @ 104
Islands, fine, old.....	none here	none here	108
Upriver, fine, new.....	99@100	102@103	109@110
Upriver, fine, old.....	105 ¹ / ₂ @106	106 ¹ / ₂ @ 107	112 ¹ / ₂ @ 113
Islands, coarse, new.....	50 ¹ / ₂ @ 57	46 ¹ / ₂ @ 47	53 ¹ / ₂ @ 54
Islands, coarse, old.....	none here	none here	60
Upriver, coarse, new....	84@ 85	72@ 73	83@ 84
Upriver, coarse, old.....	none here	74@ 75	none here
Cametá, coarse.....	.....	52@ 53	55@ 56
Caucho (Peruvian), sheet.	62@ 63	53@ 54	59@ 60
Caucho (Peruvian), ball..	80@ 81	63@ 64	77@ 78
Ceylon (plantation), fine, sheet.....	113@ 114	105@ 106	118@ 119

AFRICAN.

Sierra Leone, 1st quality.....	87@88	Lopori ball, prime....	91@92
Massi, red.....	87@88	Lopori strip, prime....	76@77
Benguella, red.....	47@48	Madagascar, pinky....	77@78
		Ikelemba.....	none here

Indications from what must be regarded as a competent source foreshadow higher prices and smaller crops. It is claimed that 75 per cent. of the yield for 1908 has already been gathered in four Southern states, and that the supply from the present outlook will hardly equal the call. The quality of this season's offerings are said to be superior to those of last season.

Speculative cotton is active, as prices are sufficiently low to stimulate vigorous trading. In the event of expected increased post-election rubber business, it is very probable that orders largely in excess of those covered by contract will be placed long before the expiration of the contract period.

The demand for cotton for New England mills has been larger of late than for many months past.

Accra, flake.....	19@20	Soudan niggers.....	58@59
Cameroon ball.....	53@54		

CENTRALS.

Esmeralda, sausage.....	69@70	Mexican, setup.....	69@70
Guayaquil, strip.....	54@55	Mexican, slab.....	53@54
Nicaragua, scrap.....	69@70	Mangabeira, sheet.....	43@44
Panama.....	53@54	Guayule.....	30@31

EAST INDIAN.

Assam.....	80@87	Borneo.....	27@34
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Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	4\$900	Upriver, fine	6\$200
Islands, coarse	2\$200	Upriver, coarse	4\$200
		Exchange	15 7/32d

Latest Manãos advices:

Upriver, fine.....	6\$200		
Upriver, coarse.....	4\$200	Exchange.....	15 7/32d.

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total 1908.	Total 1907.	Total 1906.
Stocks, August 31.....	86	43 =	129	240	147
Arrivals, September.....	732	434 =	1166	593	723
Aggregating.....	818	477 =	1295	833	870
Deliveries, September.....	770	446 =	1216	660	777
Stocks, September 30....	48	31 =	79	173	93

PARÁ.

ENGLAND.

	1908.	1907.	1906.	1908.	1907.	1906.
Stocks, August 31.....	305	200	370	375	625	790
Arrivals, September.....	2100	2230	1505	710	600	460
Aggregating.....	2405	2520	1941	1085	1225	1250
Deliveries, September.....	1965	1948	1491	800	675	550
Stocks, September 30....	440	572	450	285	550	700
World's visible supply, September 30....	1831	2383	1876			
Pará receipts, July 1 to September 30.....	4870	4720	2865			
Pará receipts of Caucho, same dates.....	840	610	485			
Afloat from Pará to United States, Sept. 30..	1060	383	218			
Afloat from Pará to Europe, Sept. 30.....	920	705	415			

London Auctions.

OCTOBER 2.—At to-day's auction about 34½ tons Straits and 19 tons Ceylon plantation were offered and for the most part sold. This rubber was in good demand and sold well, generally at higher prices. Rosehaugh crepe sold up to 4s. 8½d. [= \$1.14], and 5 cases Warriapolla biscuits at 4s. 11d. [= \$1.19 2-3]. Fine Pará brought 4s. 3½d. [= \$1.04½] per pound.

OCTOBER 16.—About 35 tons Straits rubber and 7½ tons Ceylon were offered at to-day's auctions and practically all sold, with good competition. The average price for sheets and biscuits was 4s. 8½d. [= \$1.14½]; crepes met a good demand and very fine lots realized up to 5s. [= \$1.21 2-3]; brown and dark sold well; scrap also a little dearer. Fine Pará sold up to 4s. 5½d. [= \$1.08½].

IN regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street) advises:

"While there is no special change in general money market conditions since my report for September, and rubber paper is still selling at $4\frac{1}{2}$ @5 per cent. for the best names and $5\frac{1}{2}$ @6 per cent. for those not so well known, there is rather less demand, as some banks are dropping out of the market, and a tendency towards firmer rates."

NEW YORK PRICES FOR SEPTEMBER (NEW RUBBER).

	1908.	1907.	1906.
Upriver, fine .....	.06—1.03	1.06—1.10	1.22—1.24
Upriver, coarse .....	.69— .73	.88— .90	.92— .94
Islands, fine .....	.90— .96	.99—1.05	1.18—1.20
Islands, coarse .....	.44— .48	.58— .60	.66— .69
Cameta .....	.51— .53	.62— .66	.68— .70

Rubber Receipts at Manaos.

DURING September and three months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

From	1908.	1907.	1906.	1908.	1907.	1906.
Rio Purus-Acre.....tons	698	447	202	1,402	1,155	987
Rio Madeira.....	280	358	370	871	840	904
Rio Jurua.....	269	187	173	418	309	328
Rio Javary-Iquitos....	264	278	392	428	526	541
Rio Solimoes.....	51	113	54	101	186	116
Rio Negro .....	...	...	4	...	1	4
Total	1,562	1,383	1,195	3,220	3,017	2,880
Caucho	209	229	238	628	562	475
Total	1,771	1,612	1,433	3,848	3,579	3,355

Liverpool.

WILLIAM WRIGHT & Co. report [October 1]:

Fine Para.—There has been a strong demand at generally advancing prices throughout the month, and values at the close are fully 3d. per pound dearer. America has again taken a considerable quantity from this market, and seems likely to take a still further quantity, and with small available supplies in the near future, added to the fact that European manufacturers, generally speaking, are short of stock, a further advance in values seems inevitable; later on, of course, with increased receipts prices will doubtless react, but not to any great extent, as there is a strong undercurrent of buying strength, and to-day anything offering under 4s. per pound would find eager buyers in quantity for any position. Closing value, Upriver 4s. 3 $\frac{1}{2}$ d. [= \$1.04 $\frac{1}{2}$].

EDMUND SCHLUTER & Co. report [September 30]:

Para grades have been in good demand throughout the month, and prices have gradually advanced. The opinion expressed in our last circular that prices of near delivery rubber might advance was correct, but the easier tendency for the more distant positions has not made itself felt yet. The

demand at present exceeds the previous estimates of requirements based on manufacturers' advices who reported poor business in Europe, and only moderately good in America. With increased requirements the chances of much of a reaction in prices becomes smaller; at the same time crop reports continue favorable, and at one time or other must tell on the markets—possibly in the not remote future.

THE WORLD'S VISIBLE SUPPLY OF PARA, SEPTEMBER 30.

	1908.	1907.	1906.	1905.	1904.	1903.
Tons	3269	3276	2361	2302	1719	1870
Prices, hard fine.	4/3 $\frac{1}{2}$	4/4 $\frac{1}{2}$	5/1	5/6	4/9 $\frac{1}{2}$	4/8

Antwerp.

RUBBER STATISTICS FOR SEPTEMBER.

DETAILS.	1908.	1907.	1906.	1905.	1904.
Stocks, August 31. kilos	874,514	740,514	686,867	558,202	602,495
Arrivals, in September	189,424	562,889	318,778	339,575	772,200
Congo sorts	142,743	490,090	259,072	240,891	632,293
Other sorts	46,681	72,799	59,706	98,684	139,907
Aggregating	1,063,938	1,303,403	1,005,645	897,777	1,374,695
Sales in September..	409,777	584,398	438,962	331,042	570,213
Stocks, September 30.	654,161	719,005	566,683	566,735	804,482
Arrivals since Jan. 1.	3,663,163	4,064,354	4,252,505	4,059,248	4,481,821
Congo sorts	3,095,954	3,476,334	3,257,915	3,152,184	3,701,549
Other sorts	567,209	588,020	994,590	907,064	780,272
Sales since Jan. 1....	4,015,896	4,003,533	4,421,009	4,033,874	4,288,239

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

OCTOBER 9.—By the steamer <i>Caernesse</i> , from Manaoas and Para:	IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.
A. T. Morse & Co.....	159,600	22,300	72,000	....	....	253,900
General Rubber Co.....	82,200	27,300	99,500	100	....	209,100
New York Commercial Co.	73,900	22,600	71,700	8,200	....	176,400
Poel & Arnold.....	49,600	12,900	48,100	100	....	110,700
Hagemeyer & Brunn.....	38,900	....	64,700	....	....	103,600
Edmund Reeks & Co.....	44,300	1,000	27,100	1,300	....	73,700
C. P. dos Santos.....	15,000	5,000	45,500	5,300	....	70,800
William E. Peck & Co....	4,300	....	9,300	....	....	13,600
Thomsen & Co.....	200	200	200	1,600	....	2,200
TOTAL	468,000	91,300	438,100	16,600	....	1,014,000
OCTOBER 23.—By the steamer <i>Cuthbert</i> , from Manaoas and Para:						
New York Commercial Co.	467,300	93,800	109,600	43,200	....	713,900
A. T. Morse & Co.....	124,300	41,400	166,600	....	....	332,300
Poel & Arnold.....	172,000	16,700	65,600	....	....	254,300
General Rubber Co.....	50,000	6,200	70,500	600	....	127,300
Hagemeyer & Brunn.....	52,700	1,300	64,500	....	....	118,500
C. P. dos Santos.....	67,400	11,200	5,900	300	....	84,800
Edmund Reeks & Co.....	22,200	4,600	33,000	....	....	59,800
William E. Peck & Co....	21,400	....	27,100	....	....	48,500
G. Amsinck & Co.....	13,700	1,800	800	1,100	....	17,400
L. Johnson & Co.....	20,800	2,500	2,800	1,100	....	27,200
TOTAL	1,011,800	179,500	546,400	46,300	....	1,784,000

PARA RUBBER VIA EUROPE.

OTHER NEW YORK ARRIVALS.

SEPT. 25.—By the <i>Carmania</i> —Liverpool:	SEPT. 26.—By the <i>Waldersee</i> —Hamburg:	SEPT. 26.—By the <i>Campania</i> —Liverpool:	SEPT. 30.—By the <i>Prent. Lincoln</i> —Hamburg:	OCT. 1.—By the <i>Umbria</i> —Liverpool:	OCT. 1.—By the <i>Chicagg</i> —Havre:	OCT. 3.—By the <i>Lucania</i> —Liverpool:	OCT. 3.—By the <i>Cedric</i> —Liverpool:	OCT. 7.—By the <i>Prent. Grant</i> —Hamburg:	OCT. 8.—By the <i>Caronia</i> —Liverpool:	OCT. 9.—By the <i>Tojomo</i> —Orinoco:	OCT. 15.—By the <i>Oceanic</i> —London:	OCT. 16.—By the <i>Mauretania</i> —Liverpool:	OCT. 17.—By the <i>Celtic</i> —Liverpool:
New York Commercial Co. (Fine)	W. L. Gough Co. (Fine)	General Rubber Co. (Fine)	Livesey & Co. (Coarse)	Poel & Arnold (Caucho)	New York Commercial Co. (Fine)	General Rubber Co. (Fine)	Poel & Arnold (Fine)	W. L. Gough Co. (Fine)	General Rubber Co. (Fine)	American Trading Co. (Fine)	Poel & Arnold (Coarse)	New York Commercial Co. (Caucho)	General Rubber Co. (Fine)
25,000	4,500	22,500	13,500	128,000	11,000	65,000	33,500	15,000	135,000	20,000	11,000	40,000	56,000
Poel & Arnold (Fine)		Muller, Schall & Co. (Coarse)			Poel & Arnold (Caucho)	General Rubber Co. (Coarse)				5,000			
20,000		11,500				11,000				55,000			
Poel & Arnold (Coarse)		56,000				76,000				80,000			
3,000		15,000											
Poel & Arnold (Caucho)		90,000											
22,500													
General Rubber Co. (Fine)													
4,500													

SEPT. 25.—By the <i>Manzanillo</i> —Tampico:	SEPT. 26.—By the <i>Eithel Frederick</i> —Colombia:	SEPT. 26.—By the <i>Monterey</i> —Frontera:	SEPT. 26.—By the <i>Acree</i> —Pernambuco:	SEPT. 26.—By the <i>Colon</i> —Colon:	SEPT. 30.—By the <i>Sarnia</i> —Colon:	SEPT. 30.—By the <i>El Norte</i> —Galveston:	OCT. 1.—By the <i>Atrato</i> —Colon:
New York Commercial Co.	Kunhardt & Co.	Harburger & Stack.	A. D. Hitch & Co.	G. Amsinck & Co.	A. Santos & Co.	Continental-Mexican Rubber Co.	New York Commercial Co.
*145,000	4,000	2,500	9,000	4,000	11,000	*55,000	7,500
Edward Maurer	Fidangu Bros. & Co.	Strube & Ultzeo.	Frame & Co.	I. Brandon & Bros.	New York Commercial Co.	Edward Maurer	Maldonado & Co.
*145,000 *290,000	1,500	2,500	2,000	4,000	1,500	*22,500	1,500
	Eggers & Heinlein.	American Trading Co.		W. R. Grace & Co.	A. M. Capens Sons.		G. Amsinck & Co.
	6,500	2,500		1,000	1,000		1,000
		Pedro Tremance		A. T. Morse & Co.	Mecke & Co.		
		1,500		500			
		E. N. Tibbals Co.		De Sola & Pardo.			
		1,000		Scholtz & Marturet.			
		11,000		500			

OCT. 3.—By the <i>Lucania</i> —Liverpool:	
Rubber Import Co.....	40,000
OCT. 3.—By the <i>Merida</i> —Frontera:	
E. Steiger & Co.....	3,000
Harburger & Stack.....	1,000
OCT. 3.—By the <i>Bayamo</i> —Tampico:	
Edward Maurer	*70,000
Poel & Arnold.....	*22,500
OCT. 5.—By the <i>Finland</i> —Antwerp:	
Poel & Arnold.....	*22,500
OCT. 7.—By the <i>Advance</i> —Colon:	
L. Johnson & Co.....	13,500
Hirzel, Feltman & Co.....	4,000
G. Amsinck & Co.....	3,500
Meyer Hecht	1,500
Roldan & Van Sickle.....	1,500
Pablo Calvet Co.....	1,000
OCT. 8.—By the <i>Majestic</i> —London:	
Edward Maurer	*22,500
H. Marquardt & Co.....	*9,000
OCT. 8.—By the <i>Prins Willem</i> —Colon:	
A. Santos & Co.....	3,000
A. Rosenthal's Sons.....	2,500
New York Commercial Co.....	2,500
L. Johnson & Co.....	1,500
American Trading Co.....	1,500
G. Amsinck & Co.....	1,000
Suzarte & Whitney.....	500
OCT. 8.—By the <i>El Siglo</i> —Galveston:	
Continental-Mexican Rubber Co.....	*55,000
OCT. 8.—By the <i>Verdi</i> —Bahia:	
Poel & Arnold.....	89,000
New York Commercial Co.....	22,500
J. H. Rosback & Bros.....	11,000
A. Hirsch & Co.....	7,000
Muller, Schall & Co.....	1,000
OCT. 9.—By the <i>Sigismund</i> —Colombia:	
G. Amsinck & Co.....	3,000
Kunhardt & Co.....	2,500
Mecke & Co.....	2,000
I. Brandon & Bros.....	1,500
Schloss Brothers	1,500

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it DOES NOT BLOW UNDER CURE.

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CHEMICAL IN THE
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WHEN PROPERLY CURED AND MIXED WITH OTHER COMPOUNDS
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**There is As Much Difference Between the Various Brands of Guayule
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Guayule made from old, sun exposed shrub is **dead, dirty and sticky**, and no amount of washing will make it clean, while rubber made from freshly cut, selected shrub, has **life, low percentage of resin and is practically clean.**



has been on the market for several years and is known to be the best Guayule made as to life, strength, purity and low percentage of resin.

There is a large demand for a specially prepared Guayule, dry and ready for use, which we have met in



As this rubber is made exclusively from our high grade "Parra" Guayule, uniformity and absolute purity is guaranteed. No mixing in of cheap compounds to bring down the price. Durango rubber is nothing but Parra brand pure Guayule prepared so that anybody can use it.

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**Sole Representative of the MADERO interests in Mexico,
largest owners of Guayule**

Oct. 9.—By the <i>Tojomo</i> =Bilivar:		SEPT. 28.—By the <i>St. Paul</i> =London:		Oct. 19.—By the <i>Philadelphia</i> =London:	
G. Amsinck & Co.	7,000	Poel & Arnold.	20,000	A. T. Morse & Co.	5,500
Oct. 9.—By the <i>Atlanta</i> =Colon:		Livesey & Co.	9,000	Poel & Arnold.	5,500
Carvalhos & Co.	5,000	SEPT. 28.—By the <i>Vaderland</i> =Antwerp:		Oct. 19.—By the <i>Singapore</i> =Singapore:	
L. Brandon & Bros.	2,000	Joseph Cantor.	9,000	Muller, Schall & Co.	11,000
W. R. Grace & Co.	5,000	SEPT. 29.—By the <i>United</i> =Havre:		Otto Isenstein & Co.	4,500
Oct. 10.—By the <i>Morro Castle</i> =Vera Cruz:		A. T. Morse & Co.	11,500	Oct. 20.—By the <i>Manila</i> =London:	
H. Marquardt & Co.	2,000	SEPT. 30.—By the <i>Pres. Lincoln</i> =Hamburg:		A. T. Morse & Co.	2,500
American Trading Co.	1,500	A. T. Morse & Co.	11,000	Muller, Schall & Co.	2,500
L. N. Hendlin & Co.	1,000	Poel & Arnold.	5,000	George A. Alden & Co.	2,500
E. Steiger & Co.	500	Oct. 1.—By the <i>Adriatic</i> =Bordeaux:			
Oct. 12.—By the <i>St. Louis</i> =London:		General Rubber Co.	27,000		
W. L. Gough Co.	5,500	Oct. 1.—By the <i>Union</i> =Liverpool:			
Poel & Arnold.	3,000	Poel & Arnold.	11,000		
Oct. 12.—By the <i>Yaman</i> =Tampere:		Livesey & Co.	3,500		
Edward Maurer.	1,000	Oct. 3.—By the <i>Cedric</i> =Liverpool:			
New York Commercial Co.	245,000	General Rubber Co.	50,000		
Oct. 13.—By the <i>Zeeland</i> =Antwerp:		A. T. Morse & Co.	5,500		
Poel & Arnold.	22,500	Oct. 3.—By the <i>London</i> =Liverpool:			
Oct. 13.—By the <i>Die</i> =Galveston:		Muller, Schall & Co.	15,000		
Continental-Mexican Rubber Co.	55,000	George A. Alden & Co.	11,000		
Oct. 14.—By the <i>Zula</i> =Maracaibo:		Joseph Cantor.	5,000		
R. de Gallego & Co.	2,500	Oct. 3.—By the <i>England</i> =Antwerp:			
G. Amsinck & Co.	1,500	George A. Alden & Co.	102,000		
Oct. 14.—By the <i>Sibona</i> =Colon:		Poel & Arnold.	19,000		
New York Commercial Co.	10,000	Rubber Trading Co.	3,500		
G. Amsinck & Co.	3,000	Oct. 7.—By the <i>President Grant</i> =Hamburg:			
Eggers & Heinlein.	2,500	George A. Alden Co.	25,000		
L. Brandon & Bros.	1,500	A. T. Morse & Co.	19,000		
Suzarte & Whitte.	500	Muller, Schall & Co.	2,000		
Oct. 15.—By the <i>El Norte</i> =Galveston:		Oct. 8.—By the <i>Caronia</i> =Liverpool:			
Continental-Mexican Rubber Co.	45,000	George A. Alden & Co.	22,500		
Mercer Rubber Co.	2,500	A. T. Morse & Co.	9,000		
Oct. 15.—By the <i>Finance</i> =Colon:		Muller, Schall & Co.	11,500		
G. Amsinck & Co.	1,000	W. L. Gough Co.	5,500		
Smithers-Nordenholt Co.	1,000	Oct. 9.—By the <i>California</i> =Bordeaux:			
Bartling & De Leon.	500	General Rubber Co.	35,000		
Oct. 17.—By the <i>Mexico</i> =Frontera:		Robinson & Co.	5,500		
Harburger & Stack.	1,500	Oct. 12.—By the <i>St. Louis</i> =London:			
E. Steiger & Co.	1,500	General Rubber Co.	22,500		
General Export & Commission Co.	1,000	Oct. 13.—By the <i>Zeeland</i> =Antwerp:			
Graham, Hinkley & Co.	1,000	A. T. Morse & Co.	50,000		
Oct. 20.—By the <i>El Norte</i> =Galveston:		Poel & Arnold.	67,500		
Continental-Mexican Rubber Co.	55,000	Joseph Cantor.	11,500		
Edward Maurer.	22,000	Rubber Trading Co.	13,500		
Oct. 21.—By the <i>Prins Joachim</i> =Colon:		Oct. 15.—By the <i>Oceanic</i> =London:			
A. Rosenthal's Sons.	2,500	Livesey & Co.	11,000		
A. N. Rotholz.	1,000	Robinson & Co.	4,500		
Brandon & Bros.	1,000	Oct. 17.—By the <i>Pennsylvania</i> =Hamburg:			
Oct. 21.—By the <i>El Norte</i> =Galveston:		Poel & Arnold.	33,500		
Continental-Mexican Rubber Co.	55,000	General Rubber Co.	7,000		
*This sign, in connection with imports of Cen-		George A. Alden & Co.	2,500		
trals, denotes Guayule rubber.		Oct. 17.—By the <i>Celtic</i> =Liverpool:			
AFRICANS.		George A. Alden & Co.	11,500		
SEPT. 24.—By the <i>Frederic</i> =Liverpool:		A. T. Morse & Co.	7,000		
General Rubber Co.	33,500	H. A. Gould Co.	3,500		
SEPT. 25.—By the <i>Bala</i> =Lisbon:		Oct. 20.—By the <i>Kroonland</i> =Antwerp:			
General Rubber Co.	115,000	A. T. Morse & Co.	38,000		
SEPT. 25.—By the <i>Gamania</i> =Liverpool:		EAST INDIAN.			
Livesey & Co.	11,500	SEPT. 28.—By the <i>Minnesota</i> =London:			
General Rubber Co.	7,000	A. T. Morse & Co.	20,000		
Poel & Arnold.	9,000	General Rubber Co.	11,000		
SEPT. 26.—By the <i>Waldsee</i> =Hamburg:		Robinson & Co.	15,000		
Poel & Arnold.	32,000	Rubber Trading Co.	5,000		
General Rubber Co.	9,000	Oct. 3.—By the <i>New York</i> =London:			
George A. Alden & Co.	7,000	A. T. Morse & Co.	6,500		
A. T. Morse & Co.	5,000	Oct. 6.—By the <i>Mesaba</i> =London:			
W. L. Gough Co.	3,500	Rubber Trading Co.	9,000		
SEPT. 26.—By the <i>Campania</i> =Liverpool:		Oct. 12.—By the <i>Minnehaha</i> =London:			
A. T. Morse & Co.	9,000	Muller, Schall & Co.	7,000		
Muller, Schall & Co.	5,500	Robinson & Co.	4,500		
Robinson & Co.	3,000	Oct. 14.—By the <i>Hohenfels</i> =Colombo:			
SEPT. 26.—By the <i>Amerika</i> =Hamburg:		A. T. Morse & Co.	22,500		
General Rubber Co.	11,500				

*Denotes plantation rubber.

GUTTA-JELUTONG.

Oct. 16.—By the <i>Manila</i> =Singapore:	
Poel & Arnold.	22,500
Heabler & Co.	11,000
Oct. 19.—By the <i>Schuykill</i> =Singapore:	
Heabler & Co.	165,000
George A. Alden & Co.	55,000

GUTTA-PERCHA.

Oct. 16.—By the <i>Manila</i> =Singapore:	
Otto Isenstein & Co.	15,000
Oct. 17.—By the <i>Pennsylvania</i> =Hamburg:	
Robert Soltan Co.	7,500
Oct. 19.—By the <i>Schuykill</i> =Singapore:	
Heabler & Co.	22,500
George A. Alden & Co.	5,000

BALATA.

SEPT. 28.—By the <i>Gama</i> =Demerara:	
George A. Alden & Co.	11,500
Heabler & Co.	5,500
Middleton & Co.	5,000
Oct. 7.—By the <i>Sar</i> =Demerara:	
George A. Alden & Co.	9,000
Middleton & Co.	4,500
Oct. 9.—By the <i>Tojomo</i> =Bilivar:	
G. Amsinck & Co.	6,000
American Trading Co.	5,500
For Europe.	550,000
Oct. 12.—By the <i>Korona</i> =Demerara:	
George A. Alden & Co.	6,500
Oct. 20.—By the <i>Cyprian</i> =Demerara:	
George A. Alden & Co.	3,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—SEPTEMBER.

Imports:	Pounds.	Values.
India-rubber.	4,933,695	\$2,898,738
Balata.	125,545	53,814
Gutta-percha.	8,272	4,790
Gutta-jelutong (Pantianak).	1,104,790	30,430
Total.	6,172,302	\$2,993,772
Exports:	Pounds.	Values.
India-rubber.	53,849	\$45,774
Reclaimed rubber.	100,063	11,745
Rubber scrap imported.	630,558	\$52,150

BOSTON ARRIVALS.

SEPT. 23.—By the <i>Indrasamba</i> =Singapore:	Pounds.
Stet Rubber Co., East Indian.	2,500
Heabler & Co., Jelutong.	55,000
W. L. Gough Co., Jelutong.	20,000
George A. Alden & Co., Jelutong.	130,000
SEPT. 26.—By the <i>Sylvana</i> =Liverpool:	Pounds.
Poel & Arnold, Fine.	22,500
Poel & Arnold, Africans.	5,600
SEPT. 28.—By the <i>Nichom</i> =Liverpool:	Pounds.
Poel & Arnold, Africans.	11,500

PARA EXPORTS OF INDIA-RUBBER, SEPTEMBER, 1908 (IN KILOGRAMS).

NEW YORK.					EUROPE.						
EXPORTERS.	Fine.	Medium	Coarse.	Cauch.	TOTAL.	Fine.	Medium.	Coarse.	Cauch.	TOTAL.	TOTAL.
Schrader, Gruner & Co.....	7,999	3,400	29,370	.....	40,769	70,550	9,419	248,824	330	104,883	145,643
Gordon & Co.....	75,584	9,494	110,395	.....	201,443	4,080	1,360	.....	3,751	9,191	209,634
J. Marques & Co.....	36,550	3,060	40,920	660	81,190	42,160	4,930	28,050	.....	75,140	156,330
E. Pinto Alves & Co.....	38,760	1,700	46,200	.....	86,660	44,200	.....	24,090	.....	68,290	154,950
Scholz, Hartje & Co.....	10,922	7,780	23,275	.....	61,247	73,230	6,901	5,940	.....	86,071	147,318
Adelbert H. Alden.....	16,820	6,380	35,387	5,473	64,070	56,006	13,260	11,880	.....	81,116	145,116
Pines, Ferguson & Co.....	12,240	.....	15,849	.....	28,080	20,400	.....	9,570	.....	29,970	58,050
De Lagotellerie & Co.....	7,140	2,380	35,640	2,640	47,800	.....	.....	.....	.....	.....	47,800
Sundries.....	.....	.....	.....	.....	.....	.....	.....	.....	4,950	4,950	4,950
Itacatiara, direct.....	.....	.....	.....	.....	.....	3,870	.....	3,125	1,521	8,516	8,516
Manaos, direct.....	321,240	78,807	59,496	24,014	481,063	279,687	42,153	42,932	87,584	452,356	936,419
Iquitos, direct.....	.....	.....	.....	.....	.....	74,330	4,009	21,000	107,085	206,424	206,424
Total, September.....	547,035	112,001	492,493	32,784	1,098,313	668,513	82,032	171,171	205,221	1,126,937	2,222,250
Total, August.....	294,560	58,192	453,971	35,035	811,758	802,857	64,119	75,252	104,418	1,003,646	1,815,404
Total, July.....	303,465	77,885	343,954	199,439	834,743	337,945	33,166	107,931	149,003	627,745	1,462,488

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Vol. XXXIX. No. 3.

DECEMBER 1, 1908.

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TABLE OF CONTENTS ON LAST PAGE READING MATTER.**RUBBER AND AERONAUTICS.**

AERONAUTS in the past have had a very distinct prejudice in favor of varnish coated fabrics against the rubber coated. That was because rubber manufacturers had not always taken pains to learn exactly what was wanted to supply the needs. Within the last few years, however, certain of the great companies have made careful experiments and been able to produce rubber coated fabrics in every way superior to anything heretofore produced, and the fabrics of the future will undoubtedly be covered with rubber. This does not mean that any manufacturer can lightly enter upon this business with prospect of success. Problems are as individual and as different as were the problems that centered about the manufacture of successful automobile tires. Fabrics, compounds, and cure must not only be of the best, but must be adapted to conform to conditions that are wholly different from any other uses of rubber. Whoever embarks in this line of work, to be successful, should go through years of careful experimentation, with a knowledge of aeronautics and under the guidance of practical aeronauts, and even then the progress will be slow and first profits small.

That ballooning the world over is a coming sport, infinitely more fascinating than yachting or automobilizing, is a widely acknowledged fact, and that the rubber manu-

facturers will be called upon to produce gas receivers, light, strong, and safe, and durable, is equally true.

HIGH PRICES FOR RUBBER AGAIN.

THE sharp rise in the prices of crude rubber which has occurred within the past few weeks is one of the most marked in the history of the trade—nearly 100 per cent. for fine Pará within nine months. It may be that to-day's prices are extreme, judged by all ordinary conditions, and that the rise will be followed shortly by a reaction, but doubtless it will be many days before the lowest level reached during the current year will be paralleled.

When Islands fine at New York, during the whole of 1906, practically did not go below \$1.18 or above \$1.26 a pound, manufacturers considered that they were getting cheap rubber, considering the much higher average range during 1907, with a maximum during that year of \$1.33. So stable a market as that of 1906 had seldom been seen, and consumers began to feel that at last a fixed measure of rubber values had been reached, which would be of great advantage to them in quoting prices for manufactured products. The continuous decline during the following year, however, down to the lowest point within two decades, naturally came as a disturbing element, and must have upset many a well planned calculation.

Under the conditions which have lately been experienced it doubtless was easy for not a few members of the trade to become convinced that rubber prices prior to 1907 were unreasonably high, and that a return to old-time figures was imminent. Once so convinced, the next step, in some cases, has been a reduction of prices of manufactured goods to correspond with the lower cost of raw materials, and it is the class who have followed this course that will most seriously feel the effect of the rise just witnessed. When so heavy a decline in prices is followed by such a sharp advance, it is only rational to expect part of the advance to be lost speedily. But after the fall we may again see even higher prices, as have been seen in the past.

After all, the essential fact is that the prices of crude rubber continue uncertain, and it is far easier for a manufacturer to make the mistake of figuring his selling price too low than to correct the mistake by marking them up when a pinch comes.

Another point that may be made is that nothing in past experience in the trade—nothing in the study of apparent supply and demand, nothing in the relation of prices to visible stocks—seems to afford a guide to forecasting the market for rubber. The commodity is not one to be studied alone, but in connection with the general conditions of finance and trade, with political affairs in the producing and in the consuming countries, with the effect of new inventions, and with innumerable other considerations.

The rubber business is the most complex in the world. The production of the raw material is as yet practically uncontrolled, and no man can tell what to-morrow's demand may be. To the speculatively inclined, rubber always proved attractive; but the sober minded manufacturer should look twice before being convinced that the era of high priced rubber is over.

"VALORIZATION" OF RUBBER.

IT is interesting to see the commercial association of Manáos, through their official *Revista*, strongly opposing the "valorization" of rubber, which is only another term for the official intervention of the government to maintain the selling prices of this product. The valorization of coffee has been undertaken by the Brazilian states in which this commodity is chiefly grown, but with what result is yet a moot question, both in Brazil and in the principal foreign coffee markets.

Our Manáos contemporary, without stopping to mention coffee, takes strong ground, in an article reproduced on another page, against the principle of seeking to raise prices artificially, since they thus become less stable than when regulated alone by supply and demand. The higher prices may be raised by artificial means, the greater will be the fall when comes the inevitable swing of the pendulum in the other direction. This reasoning is not mentioned here as being new in principle, but because it is encouraging to see it adopted by the leading merchants of the state ranking first in the production of rubber.

The consumers of rubber in Europe and America are concerned more about stability of prices than whether they are high and low, and naturally would view with disfavor any new element liable at any time to create violent fluctuations. The *Revista* makes some apparently practical suggestions along the line of diversified labor, by which the rubber gathering states would do more to feed their own population, and changes in the fiscal policy to reduce the cost of living. Rubber might then be produced at a better local profit than now without necessarily fetching higher prices; furthermore, every rise in prices for Pará rubber tends to encourage rubber production elsewhere and to bring into existence more rubber than is needed, with a consequent new decline.

We are not hopeful, however, of seeing soon any tendency of the rubber states authorities to reduce the burdens of taxation. Never too well supplied with cash, the state governments in the rubber zone show signs just now of being unusually pressed for cash, following last year's slump in the rubber market and the smaller receipts from export centers. Just now, indeed, it appears that the Pará state government is dealing with a syndicate proposition, the object of which would seem to be to add something to the public revenues, whatever other effect it may have. It may be that, ten years hence, when more plantations have become productive, some of these conditions may be changed.

NOW THAT CRUDE RUBBER HAS SUDDENLY INCREASED IN PRICE, the alert individual who places "blanket orders" comes gaily to the front. He fills the traveling salesman full of enthusiasm with his orders for quantities of goods for future delivery, based on low rubber, which goods he may take or not, as he sees fit, and sometimes a careless manufacturer is foolish enough to agree to fill these orders.

"Heads I win, tails you lose."

THERE IS NO PARTICULAR SATISFACTION IN BEING A PROPHET, because when prophecies come true it is not good form to say: "I told you so." Prophecy is its own reward, and even if one can see what it is coming to, or thinks he can, it is well to avoid it. Nevertheless, here goes for prophecy: No one has claimed that Brazil would ever furnish a rubber so uniform that it would be the standard by which all others would be valued. Conditions are not favorable for such production. It looks very much, however, as if Ceylon would be able in the near future to produce a rubber that shall be the acknowledged unit of value, and this from the practical conscientious work of the government scientists, who since the first seedlings were put in at Heneratgoda, have kept this goal in view.

THOSE ENERGETIC OPTIMISTS who believe that the United States should have an International Rubber Exhibition, and that it should be held in New York, will be pained to learn that Madison Square Garden may soon be torn down and upon its site a great office building erected, and further that the Grand Central Palace is to be demolished to make room for railroad offices. As there are no other great halls in which such an exhibition could be held, the project is not likely to get beyond the stage of wishful suggestion.

ABOUT THE MOST CONSPICUOUS ADVERTISEMENT in a new magazine devoted to the aeronautic interest is that of a firm selling grass seeds. It is not so illogical as might appear at first thought. Who wouldn't, after having gone up in a flying machine, rather fall upon a well-kept lawn than into the sea, which has been the destination of so many aeronauts of late?

HOW RECENT IS THE ORIGIN OF THE RUBBER INDUSTRY is suggested by the fact that a manufacturer of machinery employed in it to an important extent, and whose death during the past month is reported on another page, took part as an expert in the production of one of the first, if not the first, railway locomotives made in America. Yet many persons to-day doubtless think of the beginnings of the railroad as something enwrapped in ancient history. It may be mentioned further that Mr. Royle's work in the locomotive shops antedated Goodyear's rubber vulcanization patent by seven years! In other words, contemporaries of Charles Goodyear, in the days of his principal activity in rubber, are still alive—some of them, in fact, are still devoting daily attention to the details of important rubber manufacturing companies.

WE DOUBT WHETHER ONE BUSINESS MAN in a thousand knows how interesting and valuable a publication is the monthly *Bulletin* issued from the International Bureau of the American Republics at Washington. The business element of the United States never has had great reason to be proud of the extent of its trade with South America, but now that the public has become better informed regarding the Southern republics through such events as the visits to their capitals by Mr. Root, the American Secretary of State, and by the American fleet on its tour of the world, it seems likely that a wider interest in these republican neighbors of ours will prevail in business circles. We know of no better medium for keeping informed in this respect than by reading this monthly *Bulletin*, which is as attractive as any other magazine published, and among the most interesting periodicals

for the business man's reading that we have seen for many a day.

THE TOTAL NUMBER OF PATENTS FOR INVENTIONS issued in all the countries of the world, according to a recent report, considerably exceeds 2,000,000. The world owes much to its inventors, of course, and perhaps to its patent offices, yet there is reason for rejoicing that not 2,000,000 patents are now in actual effect. Otherwise the difficulty of an average man's making a living doubtless would be greatly enhanced. With so many patents "working" at once hardly any industry could be engaged in, in any form, without rendering one liable to an action for alleged infringement.

IF THE MINERS OF BARYTES succeed in getting the tariff on the crude material raised from 75 cents to \$5 a ton, certain lines of rubber compounding will undergo a very sweeping revision.

TARIFF ON CRUDE BARYTES URGED.

THE committee on ways and means of the House of Representatives, at Washington, on November 10 began a series of hearings on the tariff, preliminary to the expected action of Congress in the matter of revising the schedules of duties on imports. The first witnesses heard happened to be interested in chemical products, and on the second day barytes was dealt with at length. The witnesses for the most part advocated a duty on imported crude barytes, for the protection of the domestic miners. A bill was introduced in Congress last year providing for a tariff of \$5 a ton on crude barytes, which is now on the free list. The volume of consumption of barytes products in the rubber manufacture is so great that the proposals before the committee would be of vital importance if their adoption were imminent, but it is a far cry from an inter-session sitting of a congressional committee and the translation of their findings into law.

RUSSIAN TAX ON SCRAP EXPORTS.

A CONCERTED attempt is being made by some prominent members of the rubber reclaiming trade in United States to have the Russian export duty taken off of scrap rubber. A member of the trade advises THE INDIA RUBBER WORLD: "So far we are making some progress in the matter. Just how long it will take to work out is a nice question."

The rate of the duty is 1 ruble 50 copecks per Russian pood [=36 pounds], being equivalent to about \$21.46 per 1,000 pounds, or a little over 2½ cents per pound. The details of the going into effect of this tax appeared in THE INDIA RUBBER WORLD August 1, 1904—page 392. The opinion prevailed at New York at that time that the effect of the duty would be not only to render Russian scrap firmer but to advance prices as soon as a revival of demand after the summer months should lead to a resumption of imports on an active scale. It was not felt that the total amount of the duty would be added to the import prices of Russian scrap, but certainly part of it and probably half. It was considered that foreign scrap was a necessity, and therefore enough must be paid for it to render its collection profitable.

The prices of rubber scrap at New York during the past year or two have been influenced by so many conditions that it would be hard to point out the actual effect of the Russian fiscal policy upon the trade. But the fact that American reclaimers are taking active steps to secure a reduction of the tax would indicate a belief on their part that the tax adds to the cost of their raw material.

A recent report by the British consul at Odessa, the source of a large part of the Russian imports of scrap, states that this

trade became very prosperous at one time, the local price of old goloshes increasing from 1.50 rubles to 6 rubles per pood [=2.15 cents to 8.60 cents per pound], and in spite of the export duty the volume of trade continued for awhile to rise. As the British consul puts it—though we are not clear as to the date of the condition he refers to—the exports fell off, beginning with the financial flurry in the United States, until the Russian rubber factories were without rivals as purchasers, and were able to reduce the price to 3.50 to 4 rubles per pood [=5.7 cents per pound].

The following table indicates the total imports of rubber scrap into the United States for fiscal years ending June 30, and the amounts direct from Russia. The table also specifies the imports from Germany, a large portion of which are known to originate in Russia, the figures denoting pounds:

FISCAL YEARS.	Total.	Russia.	Germany.
1907-08.....pounds	16,331,035		
1906-07....."	29,335,193	7,766,304	7,402,928
1905-06....."	24,756,486	7,891,040	5,212,716
1904-05....."	15,575,214	6,788,582	2,277,221
1903-04....."	20,270,970	12,460,187	3,126,742
1902-03....."	24,659,394	10,454,897	7,290,920
1901-02....."	22,991,900	8,536,237	8,716,907
1900-01....."	15,235,235	6,212,765	5,797,120

PROPOSED TRIBUTE TO WICKHAM.

MR. QUINCY TUCKER, of Boston, who attended the International Rubber Exhibition at London, who reports to the *Boot and Shoe Reporter* his discovery, by chance, of "the headquarters of H. A. Wickham, that venerable and respected forester, who originally secured the Pará rubber tree seeds from the Amazon valley, away back in the 70's." He reports Mr. Wickham to be still very much alive, but he suggests that Mr. Wickham "be pensioned in his own age by the rubber growers' associations in the Malay peninsula and Ceylon, and not wait to erect a monument later on, after the planters have become multi-millionaires." THE INDIA RUBBER WORLD [August 1, 1908—page 358] reviewed a notable new book by Mr. Wickham, recounting the history of his experiences in the Amazon valley which resulted in the introduction of the *Hevea* rubber species into the Far East.

NEW CONGO REGIME.

THE government of Belgium on November 15 formally took over the administration of the Congo Free State on the lines of the treaty mentioned in THE INDIA RUBBER WORLD [October 1—page 17]. The date selected for the formal ceremonies was St. Leopold's day, in the church calendar, the name of the king of the Belgians. Among the new conditions, which the government plans to adopt, will be freedom of trade by merchants of all nations on the same footing with Belgians in the Congo territory. The introduction of coined money is planned, and this will be receivable for taxes from the natives, at their option, instead of work or produce, which have been exacted from them in the past.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statements of values of exports of manufacture of india-rubber and gutta-percha for the month of September, 1908, and for the first nine months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
September, 1908	\$113,183	\$116,444	\$258,553	\$488,180
January to August..	813,383	927,084	2,371,374	4,111,841
Total	\$926,566	\$1,043,528	\$2,629,927	\$4,600,021

A YEAR OF TAXICABS IN NEW YORK.

THE first anniversary of the successful introduction of the taxicab in New York was celebrated on the evening of September 31, when Mr. Henry N. Allen, president of the New York Taxi-Cab Co., gave a dinner to the company's employees at the Harlem Casino. A number of well-known automobilists were present by invitation. The *New York Times*, in an editorial reference to the event, said:

"A year ago we had no taxicabs. Now it seems as if we had always had them, so easily have they fitted into the traffic of the town, and so generally have they been used. Generally, that is to say, in proportion to their number. Though the supply has been trebled or quadrupled in the year, there are still not nearly enough to meet the demand. We need many more taxicabs. The swift-running, comparatively inexpensive motorcar has transformed the cab business of New York, and nearly suppressed the nuisance of the guerrilla cab. It has taught people not to submit to extortion."

The article in the *Times* concludes: "There have been surprisingly few complaints of the taxicabs. In time they will supplant the horse-drawn cab altogether, and the fares will be cheaper than they are now."

The anniversary was further celebrated by the announcement that in future patrons would be charged only for the actual time that the taxicabs were in service—nothing for the time consumed in getting to the patron, telephoning for a vehicle, or in the return to the garage.

It is announced from Paris that 300,000 preferred, participating ordinary shares of the New York Motor Cab Co., Limited (head offices in London), have been registered for stamp duty there as from February 11, 1908, which means the official recognition of dealings in the shares on the Paris bourse. A similar announcement is made regarding 60,000 deferred 1 shilling shares. The London company mentioned is the parent company of the New York Taxi-Cab Co. [See THE INDIA RUBBER WORLD, July 1, 1908—page 328; September 1, 1908—page 411.]

In the New York supreme court an injunction has been issued restraining the Hotel Manhattan from using the cabs of any concern but the New York Taxi-Cab Co. It was alleged that in November, 1907, the hotel company gave to the cab company an exclusive right for five years to maintain a taxicab cab service at the hotel, and that the agreement was terminated by the hotel in August.

THE TAXICAB INTEREST IN EUROPE.

AT the second annual meeting of the General Motor Cab Co., Limited (London, September 14), the chairman, Mr. Davison Dalziel, said that from the point of view of public convenience, the introduction of the motor cab has probably proved one of the most popular innovations of modern times. This assertion is all the more interesting because London was, of all cities, the one where the horse-drawn cab seemed the most firmly established. Mr. Dalziel expressed the conviction, based upon two years' experience, that large companies, such as his, had nothing to fear from the competition of small companies, operating only a few cabs each. His company had found it necessary, in the interest of economical management, to provide their own garages, repair shops, and the like—for which they had expended to date nearly £200,000. The smaller companies could hardly meet corresponding expenditures.

The capital of the General Motor Cab Co., dating from August 1, is £1,006,000 [= \$4,895,699]. Dividends on the preferred ordinary shares for the fiscal period ended July 31 (about 14 months), aggregated 13 per cent. on the ordinary preferred shares and 10s. 7d. each on the 60,000 deferred 1-shilling shares. There are important French holdings in this company, and the shares are listed on the Paris Bourse. [See THE INDIA RUBBER WORLD, August 1, 1908—page 375.]

The General Motor Cab Co. have large interest in the Provincial Motor Cab Co., formed to operate motor cabs in all the principal British towns, having made a beginning already in Manchester, Sheffield, and several other cities.

The most pronounced tendency in Parisian taxicab circles is towards the adoption of two-cylinder cabs of a lower power than has hitherto been employed [says London *Motor Trac'nou*]. Experience has shown that most of the specially designed four-cylinder cabs, and all the standard touring chassis fitted with a cab body, were unnecessarily powerful for city work, with the result that tire, and fuel, and general maintenance expenses were too high to assure a reasonable amount of profit.

NETHERLANDS GUTTA-PERCHA CO.

THE Nederlandsche Gutta-Percha Maatschappij (Netherlands Gutta-Percha Co.) report for the business year 1907 a deficit of 101,661.15½ florins, which, added to the former deficit, brought the total to 249,358.57½ florins [= \$100,242.14¾]. The deficit for 1907 includes 13,001.32½ florins written off for depreciation. The directors state that the decline in selling prices of gutta-percha caused a loss as to the product in stock at the beginning of the year. There were large expenditures in starting the rubber goods factory at Singapore, already mentioned in THE INDIA RUBBER WORLD. The hope is entertained that better conditions will now prevail. Additional capital has been provided, and profits are looked for from the Singapore plant, as well as from the leaf gutta business, which is the primary object of the company. The idea is being considered of manufacturing goods from the company's own raw product. The gutta-percha plantations were extended to 285 bouws [= 402.82 acres], and 15 bouws have been planted to *Hevea* rubber—about 20,000 trees, which number this year is to be increased to 75,000. The greater part of the gutta-percha has been interplanted with *Cinchona* (quinine), and 5,500 florins, net, was derived during the year from the sale of bark. The plantations are in southwest Java, and the administration in Holland.

SANDMANN'S PROCESS FOR LATEX.

UNDER a recent patent [British, No. 10,848, 1907] granted to D. Sandmann, of Germany, lactescent plant juices are treated with substances containing fluorine, so that india-rubber and the like rapidly coagulate and separate, and fermentation of the sugar substances in the juices also takes place. A dilute solution of hydrofluoric acid, about one-fourth of 1 per cent., is added to the rubber milk and thoroughly mixed with it. After several hours the rubber comes to the surface, while the fermented substances remain in solution. The rubber is then placed in a press and the moisture forced out. A 10 per cent. solution of silico-fluoric acid may be used in the proportion of 5 cubic centimeters to 1 liter of crude sap. Acid salts of hydrofluoric acid, such as potassium or sodium fluoride, or silico-fluoride of potassium, sodium or zinc, may be used either in solution or added in the solid state to the sap. The alcohol caused by the fermentation promotes the coagulation of the rubber.

VISIT OF A RUBBER EXPERT TO AFRICA.

[FROM "THE AFRICAN MAIL," LIVERPOOL.]

WE learn that there is a strong probability of Professor Robert Thompson paying a visit to West Africa very shortly. His object will be to deliver a series of lectures on rubber cultivation. It augurs well for the future agricultural development of the country that the European expert should make a point of educating the native farmer to the standard of the home market. What with cocoa, rubber, vegetable and botanical research, the farmer looks like having an intellectually busy time in the future.

Rubber Hunting in Holland—I.

By the Editor of "The India Rubber World."

ALMOST from the time I learned to read, Holland had a deep interest for me. Among my earliest memories were fragments of Dutch history and stories of heroic struggles for liberty, for it was when I was quite young that my gifted mother wrote a serial entitled "The Pilgrims of Leiden." The magazine in which the story was published has been out of existence for forty years, and the story, buried under mountains of modern fiction, is forgotten, but it left its lasting impress on me, in that I felt such a respect for and interest in the Dutch that one of my ambitions was to some day visit and see for myself the evidences of their greatness, past and present. It was, therefore, with much anticipatory delight that I found myself one raw misty evening hurrying along, the stone quays of Queensborough in the wake of a sturdy porter on my way to the little sidewheeler whose duty it was to take a couple of hundred of us safely to Flushing. You will note that I called it Flushing, although in a very few hours it would be Vlissingen.

The passengers were an exceedingly mixed lot. There were English, German, French, Dutch, Swedes and Italians crowded in a stuffy main saloon that was dining room, bar, ticket office and waiting room, all in one. Some of us were fortunate enough to have secured cabins in which were bunks a trifle wider than a broad window sill. These beds were fitted with shallow mattresses and sheets and blankets so thin that we wondered how they held together. Against the metal guard that formed the outside of the bunk hung a huge leaden colored tin cuspidor, that was so eloquent of *mal de mer* that one felt qualmish even before the boat started.

The pilot had already told me that the North sea was in a tantrum and the crossing would be a rough one. So I waded through the luggage that choked the gangway and sought my cabin early, and before we really got out of the Thames was fast asleep between the salty sheets. When I woke, the little boat was prancing like a turtle with the St. Vitus dance, and the heavy eaters who two short hours before had been gorging beef and beer were now disgorging with coughs and groans. I was perilously near to joining the chorus myself, but by lying flat on my back with eyes closed, was able to hold my own. At 4:15 in the morning a huge dinner bell was rung and we turned out for coffee, ham and eggs. It was awfully cold, but finally we strung up the gangways to the custom house and were quickly passed along to a fine warm train. The contrast was so pleasant that we really felt quite cheerful. As the sun rose and the morning mists were dissipated the scenery that only Holland can furnish opened out before us. Vast stretches of broad meadow, flat as

the top of a billiard table, canals big and little, deep and shallow, lofty earthen dikes, on the tops of which were carriage roads, and row after row of trees, all of the same size and height and trimmed and manicured to the last degree of arboreal neatness and respectability.

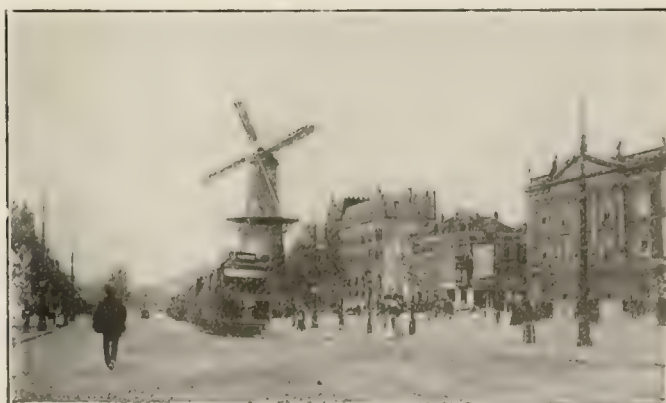
Meanwhile we went through thrifty Dutch villages where the houses were all of brick or stone with tiled roofs, each one of them suggesting "Spotless Town" by their extreme cleanliness. Early as it was the farmers were at work in the fields; some plowing with three horses hitched tandem or abreast, and some getting in cartloads of sugar beets to help make up the huge train loads that often passed us on their way to the sugar factories. Of course, we saw many windmills and appreciated their picturesque value in breaking the flat monotony of the level fields. Then, too, we saw great flocks of sheep fattening for the English market—real "Southdown mutton." There were herds of fine black and white cattle, each cow with a burlap shawl, covering shoulder and rump and protecting her from the cold of the night. Of course, we had provided ourselves with maps and guide books in English, German, Dutch, and French, and were able to identify the points of interest through which we passed. Being in the kindergarten stage, as far as Holland and Dutch went, we did not attempt to pronounce such words as *noord-kraaijert* or *rijjoord*, but devoted ourselves to using such town names as Middleburgh, Rosedaal and Dordrecht, which everybody called "Dort."

Before we reached this latter city we passed over one of the largest and finest railway bridges in the world. It crosses the Hollandsch Diep and is a wonderful result of engineering skill. The river is very broad where the bridge passes over it, in spite of the long piers, one 1,125 feet and the other 3,330 feet that have been built out from either side. The bridge itself is 5,000 feet long and is supported on 13 pillars. After crossing, a ride of 10 minutes brings one into the historic city of Dort, with its ancient buildings, wonderful museums, its *groote kerk* or cathedral, and its broad canals lined with steamers and river boats.

It is only a short run from there to Rotterdam. The morning boat-train lands passengers in the fine Beurs (Exchange) station at 8:30 in the morning. Here a porter shouldered our luggage, nodded comprehendingly when we said "Maas Hotel," and started briskly off with a load that three American porters would have grumbled at. He would not allow us to take a carriage, from which we imagined that the hotel must be just around the corner, so we followed him. The morning was



THE APPROACH TO DORDRECHT.



THE "COONSINGLL," ROTTERDAM—A PRINCIPAL STREET.



"ERASMUSPLEIN," ROTTERDAM.

[Named for Erasmus, a statue of whom appears in the center; in the background are important business premises.]

bright and clear, but an icy wind straight from Siberia made quick walking imperative. It must have been cold even for the sturdy Hollanders, for the workmen clattered along in their wooden shoes, with coat collars turned up and hands thrust deep in their huge trousers pockets. And the dogs harnessed to the little milk wagons strained at the leather as if eager to be back to their warm kennels.

It was not too cold to be clean, however, and the men were already flushing the decks of the huge canal boats, that row upon row were moored to the stone quays opposite the great warehouses, while their stout *vrouws*, their bare arms purple red, were washing everything else within reach.

We followed our porter for about a mile until he ushered us into another railway station. Then we knew we had made a mistake, but how should we explain in Dutch when we knew nothing of the language? In desperation I said:

"*Nein, nein; Hotel Maas.*"

"Oh," he replied in good English, "I thought you said Maas Station. The hotel is but a few minutes away, I will take you," and reshouldering the luggage he started off. It was then that we got our first inkling of the fact that the Dutch, in their cities at least, are familiar with all languages. Not only do the merchants speak English, French, and German, but the shopkeepers, cabmen, porters, and bell boys all have a working knowledge of these languages and are uniformly glad to be of assistance.

The Maas Hotel is situated on a broad street that runs along the *boompjes*, the great quay extending for more than a mile



THE "RIJNHAVEN," ROTTERDAM.

along the river Maas, and it is on this same street, and not far away, that are situated the offices and warehouses of Weise & Co. They are one of the old firms in the business of importing india-rubber, gutta-percha, and balata. Indeed, the founder of the house, so the senior partner told me, traded with the Aldens in Boston 40 years ago.

The company is now made up of Jacob Musly, who is the senior partner, and Messrs. Robert and Fritz Weis, sons of the late Julius Weis, founder of the business. They do a very large business in the gums named and also handle copra, gum copal, damar, etc. They have branches in Java, Sumatra, the Malay States, and in the Dutch West Indies, and were pioneers in the exploitation of rubber in the Congo. Indeed, it is their boast that they taught Antwerp the rubber business.

Mention may be made here of another important house in the crude rubber trade of Rotterdam—the Nieuwe Afrikaansche Handels Vennootschap. This is the oldest company trading on the Congo, having established a branch at Boma as early as 1860 and extended their operations up the river with the progress of development in that region. They were established before the Belgians entered the field, and notwithstanding the changed conditions the name of the company and its initials—A H V—continue to be of much influence and very popular with the natives. Rubber has figured to an important extent in the operation of this company, which has proved a profitable enterprise, and since 1901 it has participated in the Kasai company (La Compagnie du Kasai), in which it holds 340 of the 2,010 shares. Arrivals of Congo sorts at Rotterdam take place by the same steamers calling at Antwerp, but are not confined to the product of the



SHIPPING AT ROTTERDAM—FREIGHT PIER.



COURTYARD OF RUBBER WAREHOUSE OF WEISE & CO., ROTTERDAM.

Congo Free State, rubber from the French territory north of the Congo also being included.

Mr. Musly took me in hand at once and showed me through the great warehouses where were huge stocks of gutta-percha, balata, and Congo rubbers. These vaults and storehouses were arranged round an open courtyard just back of the firm's offices, the whole fronting on the great quay where ocean-going steamers from all parts of the tropical world were unloading freight practically into their yard. So near were they that the transfer from steamers to storehouse amounted only to about 4 cents (Dutch) per cwt. Indeed, now that we are on the topic, prices for handling and storage were exceedingly reasonable, and in just about this proportion in all parts of the city, the average per month for warehouseing and insurance being about 6 cents per cwt.

After carefully inspecting the huge stores of gums and noting the concentration of the whole business and the ability to examine the whole of each shipment, we proceeded to what is perhaps the most unique and practical india-rubber and gutta-percha sample room in existence. Here are arranged, in darkened cabinets, small samples of every shipment of any importance of gutta-percha and rubber that the house has made for 20 years back, and naturally there are samples of rubbers long since gone out of existence and their names even forgotten in the trade.

One thing that struck me particularly in connection with this great house was the wonderful attention to detail. Then, too, they had simple methods of doing things. For example, the rubbers that were shipped in burlap when ready for shipment were protected against theft, by having the seams of the bags painted.

Then whoever opened the bag would find it impossible to close it again without detection unless he had a pot of just the shade of paint used, somewhere about his person.

Deeply interested as he was in his own business, Mr. Musly was even more anxious to impress upon me not only the beauties but the commercial importance of the great city in which he made his home. As far as I could learn he really had outside of his family and his business only two fads. One was Rotterdam, its prosperity and its greatness, and the other was football, in which game he is not only proficient, but a staunch supporter of the Dutch eleven that has won many victories over the French and the English.

His story of the growth of Rotterdam was really very dramatic. Standing on the granite quay, he pointed across the river to the other shore where, as far as the eye could reach up and down stream, were great warehouses, and thousands of steamers and river craft, big and little, and pictured the time when, 30 years ago, the whole had been waste land occupied by a few fishermen's huts. Then came Louis Pincoff, who formed a monster company, erected great warehouses, and forecasted the



LARGE STOCK OF GUTTA-PERCHA IN THE ROTTERDAM WAREHOUSE OF WEISE & CO.

development that his keenness foresaw. Unfortunately for the success of the project he was ahead of his time, his company failed and he himself was forced to leave his native country, and is said to be living in retirement, a broken old man, somewhere in the Americas. The foundations that he laid, however, were permanent, and the city took up the work and to-day owns all the docks on that side of the river, and not only that but is constantly opening new waterways and harbors, building new piers for the crowding commerce that comes from all parts of the world. The failure of poor Pincoff was perhaps a good thing for Rotterdam and for the world. With its practically free trade, its low docking fees, and its modern electrically operated machinery for loading and unloading, in the hands of city fathers who know no graft, the commerce not only has grown, but will continue to grow, and Rotterdam's 400,000 inhabitants will soon add up to a million. Nor need it stop there.

We went very completely into the story of Rotterdam's present greatness and her future. We walked her streets, ascended to the tops of huge warehouses for better views of the harbors, rode in the electric trams, and drove through the beautiful residence portions of the city. We visited fine churches, saw elegant bank buildings, drove over the old Roman road that traverses the top of a drive built 60 years B. C., and is still in excellent condition. Indeed, we "did" the city, and ended by going through the great zoological gardens that house as fine a collection of birds, beasts and reptiles as any city in the world can boast.

Aside from the impression of cleanliness and thrift that this young giant among the commercial cities of the Continent shows, one is impressed with the mixture of enterprise and conservatism of the Dutch character. What has already been written shows marvelous enterprise. Yet right in the heart of the city is a tract of land of 15 or 20 acres upon which are no buildings, and where its wealthy proprietor pastures a few sheep. On all sides are elegant buildings. He refuses to sell or to build, as he does not need the money and wants to leave the field intact to his grandchildren. As taxes are assessed on rentals, this does not cost as much as it would in some countries.

Another thing that strikes one about the business man in Rotterdam is that he actually considers business before pleasure. He is thrifty and economical as far as his own personal expenses go, but has lots of courage when it comes to big investments, and in his hospitality wants to buy everything in sight for his guest. They live more or less as the English do, although the breakfast is usually served cold and is preferably cheese, cakes and sausages, with tea, milk or coffee. The second meal, *koffiedrinken*, is served between 12 and half-past, just before the exchange opens.

The Dutch money system is like that of the United States, in that it is based on the decimal system, 100 cents making a guilder, which is about 40 cents in United States money. The great canals go through all parts of the city and are everywhere spanned by bridges, all of which, or nearly all, are draw bridges, which are operated very quickly, so that in spite of the constant passing of shipping through the canals traffic is very little delayed.

One of the most interesting happenings in Rotterdam is a fire. The Rotterdam fire brigade is organized by men who are appointed by the town council and who have no fixed pay, but the fireman who first turns on water at the fire gets a premium of about \$25; the second \$15, and the third \$10. The result is that when the fire bell rings some real hustling is done to be first on the spot. Incidentally, it might be well to remark that Rotterdam has had about as few fires as any one of the world's cities.

The river Maas, by the way, which flows through the city, is really the continuation, or rather it is the confluence of the Rhine and the Maas, and to show what an important waterway it is, it is estimated that there are at least 30,000 of the huge Rhine boats, some of them with a carrying capacity equal to the largest freight steamers that are continually employed in plying up and down the river. [To BE CONTINUED.]

THE CLASSIFICATION OF "PONTIANAK."

TO THE EDITOR OF THE INDIA RUBBER WORLD: Referring to our correspondence - - - do you think that gutta-joolatong, the import price of which is about 3 cents a pound, should be classed with india-rubber? (See copy of Schedule E, enclosed herewith.) It would appear from the descriptions we have that the article is a gum, but being so unlike the ordinary india-rubber of commerce in price, and probably in uses, it is a question with us whether it should be classed with the imports of india-rubber and gutta-percha of commerce. I shall be glad to have your views on this subject. - - -

Yours very truly,

O. P. AUSTIN,

Chief of Bureau of Statistics, Department of Commerce and Labor,
Washington, November 3, 1908.

Chief of Bureau of Statistics,
Department of Commerce and Labor,
Washington, D. C.

SIR: Referring to your inquiry of November 3, as to whether imports of gutta-joolatong should be classed with india-rubber for customs purposes, we have to have say that whereas this gum is a product of the coagulation of a latex very much as india-rubber is produced, and its sole commercial and industrial use is in connection with india-rubber, and for certain reasons must figure in the world's production and consumption of india-rubber, we should prefer not to see it classed with india-rubber in the customs statistics for the reason that it would give a wrong impression to the trade to have it so classed at this time, when such has not been done in the past. The basis of our suggestion is the fact that all statistics have their value, in our idea, for comparative purposes, and if the United States government in 1906-07 reported a total of imports of crude india-rubber of 76,963,838 pounds and 28,437,660 pounds of gutta-joolatong, it would introduce a confusing element if in future these large totals should be combined as imports of india-rubber, and an attempt should be made to compare the same with earlier statistics.

Not so many years ago all United States imports in this class were included under the general head "India-rubber and Gutta-percha." In the interest of the trade we took the liberty of suggesting that a sub-classification would be desirable, with the idea that American imports of gutta-percha and india-rubber would better be noted separately in order that we might more satisfactorily compare the figures with the imports of these materials into Great Britain and elsewhere. We were pleased to see that the Department agreed with our idea, and the result undoubtedly has been of benefit to the trade. To-day, when most of the gutta-joolatong is consumed in the United States, it would interfere with a proper comparison of rubber imports in the United States and other countries to class this cheap gum with india-rubber and gutta-percha when no similar material is included in the statistics of European countries.

We are convinced that a marked service would be rendered to commerce by the fullest sub-classification of rubber import statistics possible under the circumstances—india-rubber, gutta-percha, gutta-joolatong, balata, and so on. It would even be desirable to have the guayule gum produced in Mexico referred to separately, for reasons suggested above.

We hope ultimately to have the statistics of European countries conform more nearly to the ideas of the American trade. Here we have to-day imports of scrap rubber separated from india-rubber proper, whereas in England and Continental countries in many cases scrap or worn out rubbers are included in crude rubber, often confusing the study of rubber statistics.

Respectfully,

THE INDIA RUBBER WORLD.

New York, November 11, 1908.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

THIS exhibition, held from October 3 to October 31, was perhaps the most comprehensive of its kind which has been held in Great Britain. Originating from the desire of Manchester and other large Lancashire towns to familiarize the public with the advantages of electricity for lighting

MANCHESTER ELECTRICAL EXHIBITION.

and general industrial purposes, it was well supported by the electrical engineering firms, and it must be pronounced a great success from all points of view. I can only notice here such exhibits as are closely connected with the rubber trade, and may make a start with Heinrich Traun & Sons, of Hamburg, who had a large and varied exhibit of their vulcanite, presided over by Mr. F. Winter, who has for nearly 40 years looked after the firm's London depot. In search of novelties I was shown the distributor plates for use in motor cars—a comparatively modern and rapidly increasing business. The vulcanite, which is of a brown color, has brass insets which I am not sufficient of an expert to say more about. The vulcanite is made of a special heat-resisting compound and the very great accuracy requisite in the molding accounts for the high price charged. They have also a new semi-vulcanite packing hardly exceeding a millimeter in thickness, which is said to be much superior to vulcanized rubber of greater thickness. Acrimonious discussions have taken place more than once in town councils about orders being given to Germany for electrical vulcanite goods, but at any rate those responsible for placing the orders can point to the absence of any home exhibitors of vulcanite goods at this exhibition. As regards rubber cables the case is different, the British Insulated and Helsby Cables, Messrs. Siemens Brothers, Limited, The Liverpool Electric Cable Co., and the New Gutta Percha Co., showing up well. The last named company, making the "Gutta Geutsch" and "Peruax" insulation, can now point to five years' satisfactory working of their product, and the factory at Greenwich is now being enlarged to meet the demands of an increasing business. It is frankly announced that "Gutta Geutsch" contains no gutta-percha whatever, but is an unvulcanized compound of Para rubber and wax specially treated. It is competing to a much greater extent with vulcanized rubber cables than with gutta-percha cables, though the insulation is applied in the seamless manner as in the case of the latter. Their latest application, I understand, is in connection with colliery work, where they will compete successfully with rubber cables as regards cost at all events. Among the cables shown by the Liverpool Cable Co. was their hard cord braided twin cable designed specially for trailing work in mines. Many other classes of cables were also on view, including samples of rubber tape and compounded sheet. Some washed fine Pará had a label indicating that it alone was used in the Association cables, while some contiguous African rubber was labelled for use with cheaper non-Association cables. The stand of the British insulated and Helsby Cables was a very comprehensive one, with posts and overhead conductors and electrical instruments in great variety. In addition to vulcanized rubber cables the fibrous and paper-covered varieties were prominent, especially the multiple stranded paper-covered lead-cased cables for telephone work. Other exhibits included golf balls and motor tires, the latter a new departure at Helsby, which I commented on earlier in the year when referring to the "Radax" tire. Their inner tubes are of the jointless molded type, a remark which applies also to those to be seen on the stand of the Calmon Asbestos and Rubber Co., of Hamburg, whose motor tire I am given to under-

stand is second to none on the market. A novelty which is now being made at the Calmon works may be mentioned, though it has not much to do with electricity or rubber; this is the asbestos roofing slates and fireproof sheets which are destined to supersede ordinary slates and can also be used for flooring purposes.

PERSONALLY, I have no ambition to go sailing about in the air, but there is no gainsaying the enthusiasm of aeroplanists

AIR SHIP FABRIC.

and the votaries of high speed railways, and certain new demands upon the resources of the rubber works are doubtless destined to grow with the efflux of time. Several newspaper articles have appeared of late with reference to the gas-tight material used in the conquest of the air, and I have been making some inquiries as to what is being done in the rubber. It may be that these inquiries have not been sufficiently prolonged or reaching, but as far as I can make out the principal part of the business going has been annexed by the Continental Rubber & Gutta-percha Co., of Germany. The fabric which they have supplied with such success is a silk double texture, the proofing of which is especially designed to prevent the transmission of the hydrogen gas. The rubber balloons of pure sheet now so much at the meteorological stations of our universities for taking thermometric readings of the upper atmosphere are somewhat of a specialty with the firm. These balloons are merely larger editions of what have so long been familiar as playthings: they cost, I understand, somewhere about 5 shillings each, and the demand is an increasing one.

I UNDERSTAND that the Leyland and Birmingham Rubber Co. have recently perfected a type of rubber buffer which has

AN IMPROVED BUFFER.

given the greatest satisfaction in use on stamp batteries at the South African gold mines. Buffers for this class of work are large and cost several pounds each, the price being no particular concern with the engineers if they can get lasting power and so avoid constant renewals. I am informed that the new Leyland buffers have stood a practical test of 60 tons pressure for 60 hours, and have come out of the ordeal with practically no alteration. In past time Spencer's buffers, made at Bradford-on-Avon, easily distanced competitive makes and proved a considerable source of revenue. I don't know how they stand today, but it rather looks as if the Leyland company had hit on a good thing. I don't know whether the new buffers have been used on Cornish rolls as well as on stamps. In the old-fashioned rolls driven generally by water wheels the movable roll was pressed up against the fixed roll by means of a long weighted lever. In modern practice, where the rolls are driven by gearing from a steam engine, the lever and box of weighting material is replaced by strong rubber buffers which require renewing from time to time, and it follows that the better the buffer the less will be the trouble associated with renewals.

In a previous paragraph I have referred to the asbestos boards now being made by Calmon's. From inquiries I have

ASBESTOS DEVELOPMENTS.

made it appears that asbestos in the form of roofing felt and boards is finding increased application. Asbestos boarding, besides rendering a building fireproof, is also damp proof, and can be usefully employed instead of plaster or cement, though I suppose the first cost will be necessarily greater. As far as buildings are concerned, I understand from Messrs. Turner Brothers, Limited, of Rochdale, that

their business is chiefly done with India and other hot countries, where the advantages of asbestos boards and roofing felt as insulators are fully appreciated. So far there does not seem to have been much progress made in this direction in England, though it is possible that the new Calmon product may create a demand which pure asbestos sheet failed to induce, by reason of its higher price. The Calmon slates, by the way, are made by a process worked out by Hatchel, an Austrian, who has sold the rights to the Hamburg firm.

Another body which seems to call for notice is the fire felt recently brought out by Messrs. Turners for covering boilers, steam pipes, etc. This material, which is made in sectional form, is composed of pure asbestos fiber loosely fitted in such a way as to combine an infinite number of small air cells, thus assuring a high insulation. It is claimed that in comparison with magnesia and composition it has greater strength and durability, and by not being brittle it does not crumble under excessive vibration. Dust troubles are therefore avoided. The fact that it can be removed and replaced any number of times without losing its efficiency is certainly a point in its favor. As I have no comparative figures for magnesia I shall not refer to insulating efficiency, but if what I see stated is correct there is very little room for any other material to show itself up as superior.

FROM what I hear the seamless teats shown on the Ceylon stand at the late Olympian Exhibition have been a decided trade success. Those on view were made by Leyland and Birmingham Rubber Co. from rubber prepared according to Mr. M. Kelway Bamber's process recently referred to in THE INDIA RUBBER WORLD, and I understand that the firm have been bombarded with inquiries and orders.

COLORLESS RUBBER.

DR. DAVID SPENCE, who has for some time been closely associated with the Liverpool Institute of Tropical Research, which, by the way, has recently come to an end for want of financial support, has left the University of Liverpool for University College, Bristol. Here he has been appointed to organize and institute research in the newly formed department of economic biology. Dr. Spence has recently taken a foremost place among the workers in the field of rubber chemistry, his most recent paper being "On the Presence of Oxydases in India-rubber, with a Theory in Regard to Their Function in the Latex." In this paper he shows *inter alia* that Weber's conclusions as to the composition of the insoluble constituent of Pará rubber are not at all in agreement with the facts. It is possible, now that his sphere of operations has been changed, Dr. Spence may not be able to devote so much time to rubber as has been the case, though I speak without authority on the point.

DR. SPENCE.

I REGRET to record the death of Mr. Henry Speakman, which occurred very suddenly while traveling on a train car in Lalford, though he had been out of health for some time. Mr. Speakman was head of the firm of Henry Speakman & Sons, of St. Mary's arcade, Manchester, dealers in rubber goods. A specialty of the firm is rubber-covered rollers for the various textile industries, and in this branch the deceased had a wide knowledge and trade connection.

OBITUARY.

THE family litigation which ensued on the death of the senior partner of this old established waterproofing works has now been amicably settled, and I am informed by Mr. William Abbott that the business will be carried on as of old at the Dod street works, Limehouse, London, E., with some new blood added to the directorate. Besides rubber waterproofing in all its branches, the firm have made a

ABBOTT, ANDERSON & ABBOTT.

specialty of oilskin clothing for mariners, a branch in which I believe they have no competitor in the British rubber trade, unless it be from the South Wales Rubber and Brattice Cloth Works at Newport, Monmouth. With regard to this oilskin business, I believe it is a fact that European manufacturers are behind the Japanese as regards the production of an article that does not undergo a further oxidation when in use, a development which reduces its lasting qualities compared with the Japanese make.

WATERPROOF GARMENTS IN MEXICO.

[FROM "DAILY CONSULAR AND TRADE REPORTS."]

IN response to an inquiry Vice Consul C. M. Leonard, of Chihuahua, submits the following report on the sale of waterproof garments in that part of Mexico:

"The rainy season in the district extends from July 1 to October 1, after which there is practically no rainfall. The rains are of short duration, usually not more than half an hour at a time, and consequently there is small demand for waterproof garments. The few that are imported come mostly from England, owing to the fact that the English manufacturers make a lighter garment, which effects a saving in duty, and that prices are lower in the English market.

"Waterproof cloths are also imported and made up here, though to a very small extent. In the country districts the people use a poncho for protection against the rain. This consists of a rubber sheet with an opening through the center through which the head is thrust. The garment covers the body and is especially serviceable when riding horseback.

"For rough use the 'slicker' is also used. In a conversation with an importer of this class of goods I learn that if American manufacturers would turn out these garments of a lighter weight at prices no higher than the English make they would secure a larger market for their goods. The reason for demanding lightweight goods is two-fold; the saving on duties, as all duties are calculated on the weight of the article, and the rainy season occurring in the summer anything but a very light garment is insupportable. It is also conceded that style and workmanship of the American raincoats are better than foreign makes."

A GOOD WORD FOR CEARA RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your November number (page 65) I notice a short article about Ceará rubber, and seemingly a doubt that it is as good as Pará. In a factory in Europe, where I was employed for a time, we used large quantities of Ceará in places where others use Pará and it was all that could be desired.

Afterward, when at another factory I met a rubber broker from Liverpool who said to me "Why is it that I cannot sell Ceará to other firms? But no one wants it and we can hardly give it away." So I ordered a ton, and while I was not able on account of not having the right machinery to wash it as clean as I wished, still it did good work. I am aware that if it was in general use the price would be higher, but at the present price, even with the large percentage of loss in washing, it still remains the best rubber at the price in the market.

Sewickley, Pennsylvania, November 8, 1908.

R. E. HOTCHKISS.

THE Ungarische Gummiwaren-Fabriks, Aktiengesellschaft, of Budapest, have established a branch factory at Beson, near Paris, under the name of Société Française du "Tauril" et du Caoutchouc, for the manufacture of the "Tauril" steam packing [see THE INDIA RUBBER WORLD, February, 1906—page 167].

THE Austrian emperor, Francis Joseph I., will be presented with two motor cars, fitted with "Continental" tires, in commemoration of the completion of the sixtieth year of his reign.

The Grading of Scrap Rubber.

By Alfred W. Leslie.

IN a paper on "The Universal Standard Grading of Scrap Rubber" read by Mr. Alfred William Leslie, of London, before the recent International Rubber Exhibition he says: "Without the pecuniary advantages derived by the use of scrap rubber, the prices of a great number of manufactured articles when made from pure Pará or other high-class rubber *alone* would be entirely prohibitive in the majority of cases."

After speaking of the comparatively recent period when what is at present known as scrap rubber was discarded as valueless, the author says: "Now all this is changed, and every particle of disused rubber is carefully saved, and in due course finds its way from the small dealer to the wholesale merchant, and thence to the mills. But the wholesale merchant cannot deliver his scrap rubber to the mills as he receives it from the collectors in unsorted bulk—that is to say, in parcels which contain various grades."

After dealing with past conditions of the trade, when, partly from the carelessness of the dealer and perhaps from want of knowledge, the delivery of parcels of mixed grades has proved less profitable than a more systematic manner of doing business might have been, the author proposes a plan of classification of scrap rubber as an attempt at standardization which may prove beneficial to manufacturers of reclaimed rubber, as well as to dealers in scrap. This classification is repeated in full in these pages, and may be regarded as fairly typical of practice in the English scrap rubber trade.

As to the volume of this trade, Mr. Leslie has compiled figures to indicate the consumption within the last three years in Europe of about 96,000 long tons of reclaimed rubber, and in the United States and Canada of about 174,000 tons, or a total of, say, 604,800,000 pounds. This consumption, at a mean average price of only 5 pence per pound, works out at the enormous total of £12,600,000.

One other point from Mr. Leslie's paper will have attention here. He says: "During the last few years the prices of scrap rubber, I will admit, have been, to some extent, exceedingly high, and for this the dealer has always had to bear the blame. While there may be cases, here and there, in which such blame can be justified, I cannot admit that the high prices have been caused solely by the dealer. Take an example: Mr. A., the manufacturer, wants to purchase, say, 100 tons of automobile tires. Instead of accepting the quotation given him by one reliable dealer, he wanders round to B., C. and D., who are all dealers trading in competition with each other, and divides his 100-ton order up between them.

"What is the result? B., C. and D., being open competitors in the market, immediately proceed to fulfil their contract with A., as all such contracts are necessarily subject to the proviso that they be executed within a given time; each unwittingly bids against the others in the open market for that particular grade of scrap rubber, so as to complete Mr. A.'s order within the period named, but none of them possibly, and certainly not all of them, make a reasonable profit in carrying out the order; in many instances they are all out of pocket.

"But the trouble does not end here; by and bye Mr. A., the manufacturer, wants to buy another 100 tons of the same material at the same price, and is surprised when he calls on B., C. and D. to find that each of them requires a higher price per ton for their goods.

"The reason is not far to seek. Neither B., C. nor D. having made a reasonable profit on their last deal with Mr. A., naturally seek to guard against a repetition of such a catastrophe as occurred on the last occasion. Though he may not realize

it, Mr. A. is himself to blame for the enhanced price. He has himself indirectly inflated his own market, and this could have been obviated had he in the first place entrusted his entire order to either B., C. or D., who would then have been enabled to execute it without the competition of the other dealers.

"This example shows what I mean when I say that the manufacturer should place greater confidence in the dealer, and also when I say that increased prices are not caused solely and entirely by the dealers."

GRADING OF SCRAP RUBBER.

I. BICYCLES AND AUTOMOBILE GREY INNER TUBES. 3 Grades.

A1. Prime Floating Bicycle or Automobile Inner Tubes should be delivered free of canvas seatings and canvas patches, also free from perished or crusty tubes. The goods should be very elastic, and when cut or torn should present a black, glossy surface.

A2. Second quality Floating Bicycle or Automobile Inner Tubes. These to be delivered free of canvas seatings and canvas patches, also free from perished or crusty tubes.

While this packing will float on water it is distinctly understood that when cut or torn it will not present a black glossy surface as above mentioned, but will be more or less of a dull grey gloss, and will not have the elasticity and tensile strength as A1.

A3. These are nonfloating and should be delivered free of canvas seatings and canvas patches, also free from perished or crusty tubes.

II. RED AUTOMOBILE INNER TUBES. 1 Grade.

These to be delivered free of valve seatings, canvas patches, if any, and free of crusty tubes.

III. SURGICAL RED. 1 Grade.

This packing consists of a great variety of rubber articles, such, for example, as Air Cushions, Bladders, Enemas, Tobacco Pouches, Rings, Valves, Washers, Surgical Tubes, Bands, etc. The goods, when cut or torn, should present a bright, glossy surface, and be free of crusty or perished material. (All soft goods.)

IV. COMMON OR ORDINARY RED. 2 Grades.

I. Ordinary collection of Common Red. Although in some instances red Perambulator and Cushion Tires have been rejected, in such a parcel as this by some manufacturers in the past, in view of the multitude of other articles of a high quality included in this packing, the same should be accepted as a good delivery, when tendered, unless it be particularly specified to the contrary by the buyer. This packing would contain, for example, Rubber Pedals, Rubber Heels, Soles, Handle Grips, Perambulator and Cushion Tires, Valves, Buffers, Enemas, Tobacco Pouches, common Bottle Rings, Bladders, etc.

These goods, when cut or torn, being of a lower grade, would present a dull surface. The parcel to be free of crusty or perished material, and also of canvas.

2. This to be entirely of American sheet or packing, and not to be included in No. 1 packing, unless the percentage be disclosed to the buyer before delivery.

V. RUBBER THREADS. 1 Grade.

This scrap is usually made from the finest quality of rubber. No other grade should be included in this packing.

VI. BILLIARD SCRAP. 3 Grades.

I. Pure or Native Rubber. This should be delivered, free of wood and cloth.

2. Vulcanized, should be delivered free of crusty rubber, wood and cloth.

3. Red Billiard Scrap. This shows a bright glossy surface when cut or torn. It should be delivered free of crusty rubber, wood and cloth scrap.

VII. BLACK CUSHION TIRES. 1 Grade.

These should be delivered free of crusty rubber, wires and insertion.

VIII. BLACK PERAMBULATOR TIRES. 1 Grade.

These should be delivered free of wires.

IX. BLACK MATTING. 1 Grade.

These should be delivered free of insertion.

X. WATER BEDS AND WATER BOTTLES. 2 Grades.

1. Stripped free of canvas and metal (but not by acid), to be included in one packing and accepted as a good delivery.
2. To be delivered free of metal, but unstripped.

XI. BLACK CAB TIRES. 3 Grades.

1. British. To be delivered free of metals and canvas; the packing to include Cab or Carriage Tires.
2. Russian. These to be of separate packing and delivered free of metals and canvas.
3. These to be as No. 1, free of metals, but with canvas.

XII. BLACK SOLID OMNIBUS OR SIMILAR VEHICLE TIRES. 2 Grades.

1. To be delivered free of metals and canvas.
2. To be delivered free of metals, but with canvas.

XIII. DRAB OR WHITE RAILWAY BUFFERS. 1 Grade.

These to be delivered free of greasy and crusty material. Cones and Bogie Buffers to be included and accepted as a good delivery.

XIV. BLACK RAILWAY BUFFERS. 1 Grade.

These should be delivered free of metals and crusty material. Cones and Bogie Buffers to be included and accepted as a good delivery.

XV. DRAB OR WHITE VALVES. 1 Grade.

Should washers be included in this parcel, the same are to be accepted as a good delivery.

XVI. BLACK VALVES. 1 Grade.

Same as No. XV.

XVII. DRAB OR WHITE SCRAP. 2 Grades.

1. Admiralty Drab or White Scrap. This is made from a high class rubber, and should, when cut or torn, show a very bright glossy surface, very elastic and of great tensile strength. The same to be free of perished or greasy materials. The packing would include such as Belts or Straps, Valves, Surgical Tubing, etc., and free of fiber.

2. The material of this packing when cut or torn will present a dull surface. It should be delivered free of crusty parings from Wringer Rolls, or otherwise the percentage of the latter in the parcel should be divulged to the buyer, both by letter and sample before delivery—i. e., the parcel would contain such as Rubber Heels, Soles, Cushion Tires, Perambulator Tires, Mats, Joints, Horseshoe Pads, etc.

I am aware that in some instances, 25 per cent. of White Toys are included in such a parcel. This also should be divulged before delivery.

XVIII. DRAB OR WHITE TOY. 1 Grade.

This parcel should consist of Balls, Children's Dolls, etc.

XIX. BLACK SCRAP. 2 Grades.

1. This packing to be free from insertion, and consist of such material as Heels, Soles, Grips, Pedals, Sheeting, etc.

I am aware that in some instances Perambulator Tires and

Matting are included in this packing, and while I firmly believe that often such goods are of a better quality than the majority of the above named articles, nevertheless should these latter be included, the buyer should be advised of the percentage before delivery.

2. American Trimmings or Parings should be a separate delivery.

XX. PNEUMATIC BICYCLE STRIPPINGS. 4 Grades.

1. Floating Pneumatic Bicycle Strippings. These goods are to be delivered free of acid, canvas and crusty material. Solid floating stock if included in this parcel to be accepted as a good delivery, unless otherwise stipulated by the buyer. To save unnecessary correspondence it is advisable that the percentage of solid stock be stated by the seller before delivery.

2. Non-floating Bicycle Strippings. I am aware that in some instances this grade is called by the following names, viz., Pneumatic Drab or Semi-floating, but I desire to call a spade a spade, and not a shovel, hence the above description.

This packing should be delivered free of acid, canvas and crusty material.

3. Acid treated Floating Pneumatic Strippings. Here again this class of goods is known throughout as Reclaimed Floating Pneumatic Strippings, but as the word "Reclaimed" conveys a more extensive meaning, and as I wish to treat each grade for its actual worth, I therefore describe this grade as above. The same should be delivered free of canvas and crusty material.

If solid floating acid-treated stock be included, the same should be accepted as a good delivery, unless otherwise stipulated.

4. Acid treated Non-floating Pneumatic Strippings. The above remarks as to trade description apply in the case of this fourth grade. The same should be delivered free of canvas and crusty material.

XXI. PNEUMATIC AUTOMOBILE STRIPPINGS. 1 Grade.

These are to be delivered free of canvas or insertion and also crusty material.

XXII. PNEUMATIC AUTOMOBILE TREADS. 1 Grade.

These are to be delivered free of metal, and also of leather.

XXIII. OLD RUBBER BOOTS AND SHOES. 2 Grades.

1. To be delivered according to standard packing circular No. 3. I do not think it necessary to repeat the stipulations as to this packing, as I assume every dealer of repute is practically acquainted therewith. When offering same, the place of origin must be stated: thus, American (including Canadian), British, French, Scandinavian, or Russian.

2. To consist of all trimmed boots and shoes; the same to be free of metal and leather.

XXIV. BALLOON SCRAP. 2 Grades.

1. Grey Balloon Scrap. When torn will present a bright glossy surface, the same is usually made from a fine quality rubber, and all talc or French chalk should be shaken therefrom.

2. Red Balloon Scrap. The above remarks apply to this. Should this color be included in No. 1 packing, the fact should be intimated to the purchaser.

XXV. RED SPONGE SCRAP. 1 Grade.

This should be in one packing, unless the goods have been chemically treated, when the fact should be disclosed to the purchaser and sample submitted.

XXVI. CABLE STRIPPINGS. 3 Grades.

1. Pure Unvulcanized Pará Strippings free from insertion.
2. Vulcanized Strippings free from perished or insertion.

3. Ordinary Strippings free from insertion. As there are several thicknesses, it is necessary that the parcel should be described by letter and sample.

XXVII. RED BOTTLE RINGS. 1 Grade.

This class of goods when cut or torn should present a bright glossy surface, and the parcel should be delivered free of crusty material. No other class of goods to be included in this packing.

XXVIII. HOSEING GENERALLY AND INSERTION SCRAP. 4 Grades.

1. Westinghouse, Diaphragm, Airbrake Hose or Vacuum Hose, free of metal, to be included in one packing, and accepted as a good delivery; the same, however, to be free of crusty material.

2. Armored Hose or Vacuum Hose with metal within or without. The same to be included in one packing.

3. Garden Hose and Insertion Scrap, ordinary collection. The same to be included in one packing and accepted as a good delivery. The material must be free from rags and metal.

4. Fire Hosing, Rubber lined, 1 packing; delivered free of metal.

XXIX. EBONITE OR HARD RUBBER SCRAP. 3 Grades.

1. The material of this packing, when broken, should present a bright glossy surface, and be delivered free from metal. A parcel would consist of such as Telephone Receivers, Cells or Boxes, Knobs, Plates, Sheets, Forks, Rods, etc.

2. This being of a medium quality, when broken would only present a dull brown gloss. The same would consist of similar articles, as above mentioned.

3. Being of a low or common quality, would present no gloss when broken, and would have more or less a rough surface. This packing should consist of the same as above, including Beer Bottle Stoppers.

XXX. CRUSTY OR PERISHED RUBBERS. 3 Grades.

I propose to treat these grades as regards color, viz.:

1. All red to be included in one packing; the same, however, to be free from metal and canvas.

2. White or Drab Scrap. Same as No. 1.

3. Black. Same as Nos. 1 and 2.

XXXI. ASBESTOS SCRAP. 2 Grades.

1. Coils and Sheets, the same to be included in one packing, and when cut or torn should be of a grey silvery color.

2. This being of a lower quality, would not present the appearance of No. 1, but must be delivered free of metal, or the buyer should be informed that such a parcel contains lead, brass or copper.

XXXII. JENKINS SHEETS. 1 Grade.

XXXIII. PNEUMATIC AUTOMOBILE SOLUTIONED CANVAS. 2 Grades.

1. Double proof Pure Pará Solutioned Canvas. Single proof may be included in this packing; the percentage of same, however, to be disclosed to the buyer.

2. Double proof but of a lower quality, presenting a greyish appearance. Single proof may be included as per No. 1.

XXXIV. PNEUMATIC CYCLE SOLUTIONED FABRIC. 3 Grades.

1. Double proof Pure Pará Solutioned Fabric. Single proof may be included in this packing, but the percentage of same should be disclosed to the buyer.

2. Double proof Cycle Solutioned Fabric or Canvas, but of a lower quality, presenting a greyish appearance. Single proof may be included as per No. 1.

3. Old Cycle Solutioned Canvas (free of vulcanized); the same to be delivered free of Rubber. It is to be understood that should this packing contain very small strips of rubber, here and there, on the edges (it being frequently impossible

to entirely remove these), the same shall be accepted as a good delivery.

XXXV. PNEUMATIC AUTOMOBILE TIRES. 3 Grades.

1. This packing to contain the various makes well known throughout the trade. The same to be delivered free of metal, leather, and skinned Covers.

By the latter I mean Covers that have had the leather or metal removed therefrom.

2. This packing, which will contain similar goods to those enumerated in No. 1, will consist of covers which have had all leather and metal removed from them. It is to be understood, however, that bare casings, free of rubber, are not to be included in this packing.

3. This packing will consist of covers of various makes with leather or metal thereon.

XXXVI. PNEUMATIC BICYCLE TIRES. 3 Grades.

1. All wired on Tires of various makes; mixed ordinary collection. The same to be delivered free of crusty.

2. This packing will consist of a mixed collection of all beaded edge Covers—i. e., Clincher type. The same to be delivered free of crusty.

3. All crusty wired-on and beaded edges to be included in this packing, but should Foreign beaded edge crusty Covers be included in the same, the percentage should be disclosed to the buyer.

XXXVII. GUTTA-PERCHA. 4 Grades.

To condense my grading, I propose, although there are great varieties of this article, to divide the same into four grades only, viz.:

1. Prime Cable Strippings, such as General Post Office. The same to be delivered free of crusty, insertion and metal.

2. This packing will consist of such articles as Belting, Straps, Bottles, Cakes, Balls, Cups, etc. The same to be delivered free of metal, leather and insertion.

3. This will consist of second quality Cable Strippings, the same to be delivered free of crusty, insertion and metal.

4. This will consist of the various perished articles, but free of metal and insertion.

XXXVIII. CARDING. 1 Grade.

The same to be delivered free of insertion.

XXXIX. MACKINTOSH CLOTH CUTTINGS. 1 Grade.

When offering this class of goods, the place of origin should be stated thus: English, German, American (including Canadian), or French, and if required samples should be submitted.

XL. BELTING. 1 Grade.

These are large rubber and canvas driving and conveyer belts from fly-wheels of machinery, etc. To be delivered free of leather and metal, if any.

XLI. MOTOR AND CYCLE EDGES. 1 Grade.

These may be included in one packing; the percentage, however, of each class should be disclosed to the buyer. The same to be free from rags and metals.

XLII. RUBBER DUST OR FILINGS. 3 Grades.

1. Red, one packing. It is advisable that samples of same should be submitted to the buyer.

2. Black, one packing as above.

3. Grey, one packing as above.

XLIII. BALATA. 1 Grade.

N. B. As regards bags, these should always be charged at 3d. each on the invoice, and be credited on their return. Every dealer expends in the course of a year a considerable sum in bagging, and it is but fair that he should either charge a nominal figure for the bags or get them returned.

It should be understood that Hosing and Belting generally is sold gross for net, but that all other grades are sold net weight.

Hard Rubber at the Marseilles Exposition.

WHILE the International Exposition at Paris, in 1900, presented comparatively little in the way of hard rubber and allied products, a notable change was apparent at the Marseilles Exposition this year, owing to the development of electrical science meanwhile. Hard rubber was represented on this occasion in such a manner as to suggest that it has become an almost indispensable substance in every branch of economical activity.

In this article reference is made to the productions of one of the most important hard rubber manufacturing concerns in existence, the rubber works of Dr. Heinr. Traun und Söhne, of Hamburg, Germany, formerly the Harburger Rubber Comb Co. This concern had, indeed, at the Paris Exposition, in the hands of their Paris representatives, a small, but qualitatively interesting collection of hard rubber goods on exhibition; but at the Marseilles Exposition very important progress was demonstrated.

The firm of Traun, whose prominence in the hard rubber manufacture has been recognized for upward of 50 years, following the requirements of the times, have created in their factories a special and exceptionally complete technical department at the head of the various divisions of which specialists have been placed. The activity of this firm extends direct to the electrical field proper, as well as to auxiliary materials and apparatus. Included in the first are the strong current branch, dynamo and motor construction as well as the transmission of electrical energy; the minimum or weak current branch, telegraphy, the telephone, the field of wireless telegraphy, the automobile branch, and finally the Röntgen or X-ray technique. In the second division one finds the extensive field of chemistry, which, in its electrolytic apparatus, as also for the further exploitation and completion of the chemical products, can no longer dispense with hard rubber as the sole material, which is, in the highest degree, resistant to chemical agents, and at the same time workable. As a further phase of technical utility, exists the field of hygiene. Here the beauty, the cleanliness and the chemical resistance of the material unite to ensure its permanent employment.

In dynamo construction it is primarily the production of the very solid and high heat resisting hard rubber qualities, the "eisen gummi" (iron rubber), the "resistent" the different "isolasts" and the "ferro-isolast" by the firm of Traun that has won for their products prominence in this difficult field of the insulation branch. Here, in addition to the normal black hard rubber, the utilization of which for ordinary temperatures and loads, retains unimpaired, its importance in dynamo construction, the material in question shown either in partially manufactured form, as sheets, rods, tubes, etc., ranging from rods of millimeter in size, to sheets of 100 mm. in thickness and rods of 100 mm. in diameter; also as furnished parts, for instance, armature insulation, back-connection boxes, terminal blocks, base plates for interrupters, safety cases in all sizes, distributing boxes, plug contacts, cases for measuring devices of all kinds, "ideal" rubber protective tubing for motor cable, brake and light connections, and incandescent lamp sockets and switches. Moreover are to be noted the complete insulations for commutators (controller rollers) for electrical street and trunk railroads, as well as magnetic spark extinguishers made of iron insulated with "eisen gummi." Finally may be mentioned the cases and interior insulation devices for measuring instruments of the most complicated character, as well as the variety of storage battery boxes running into thousands of types.

One is impressed with the multitudinous forms of bell or cup insulators, the employment of which, with tensions of a few

hundred volts, as simple bells, and at higher voltages, for multiplex bells, is still very popular. Compared with porcelain, the hard rubber bell has the advantage, with otherwise equal electrical properties, that the accumulation, within the inner edge of the bell, of spider-webs, etc., is prevented, the sulphur in the hard rubber being objectionable to insects, which greatly simplifies the work of keeping insulators clean on long circuits. In the case of portable circuits—field telegraph lines, for instance—hard rubber has almost superseded the porcelain insulator. Every type of insulator for electric street and trunk railways is represented; spherical and bolt insulators, caps and cones, rotary insulators, buckle insulators, for very high traction loads, hammer insulators, section interrupters, and the like.

Wireless telegraphy could hardly have attained its present success without hard rubber. For example, there are powerful inductor fittings, the hard rubber tubes of which have walls 15 to 25 millimeters in thickness, by means of which it is possible to produce the electric sparks of the enormous length necessary for the transmission of the wireless energy; attuning coils of gigantic proportions, coils for variable self-induction, condensers, antennae transmission tubes, and special insulators, which insulate the 200 millimeter long sparks in the transmitting devices.

The automobile branch was represented at the Marseilles Exposition in a manner to show the most recent development in this field. While the part played here by the hard rubber industry in automobile construction is largely confined to the electrical features, there is to be, nevertheless, the display of steering wheels, setting levers, etc., covered with hard rubber for protection against heat or cold. In the motor vehicles operated by explosion, the most important feature in hard rubber is the electrical ignition apparatus, for the parts of which the highest degree of electric insulation and capacity for resisting electric perforation, the greatest heat resisting capacity and least liability to wear, are demanded. The large number of distributing discs, with the numerous metal contacts, so difficult to vulcanize in, the contact coils, carbon holders, plug contacts, in their fine finish, delight the connoisseur.

The great spark inductors and their apparatus, used in the Röntgen or X-ray branch, have already been mentioned. New in this field are the protective devices against the effects of the Röntgen rays, for which purpose, permeable and electrically non conducting substances are homogeneously combined, or compounded, with substances that absorb such ray. By this means it has been found possible to produce aprons, masks for Röntgen lamps, etc., that protect the operator.

One of the most important fields for the hard rubber industry is offered by chemistry. Here the electric current and its necessary insulation, distribution, and transmission, in connection with the employment of enormously powerful currents on the one hand, and the production of substances that exercise a destructive effect on most formable materials, has furnished a previously unexpected field for the use of hard rubber. The electric requirements have already been referred to above, but the rubber-coated metallic kettle for boiling, stirring and assembling purposes and the rubber-coated iron stirring apparatus working in it, the hard rubber conductors to carry off the resultant products and the branches, bends, T and elbow pieces with the cocks, slides and valves necessary therefor, are a sight in themselves. To this must be added the hard rubber pumps of every description, made wholly of hard rubber, or in which the parts coming in contact with acids or alkalis are coated.

Dr. Heinr. Traun und Söhne received the highest award at Marseilles—the *grand prix*—for their exhibit of manufactures used in the hard rubber industry.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA

ISSUED OCTOBER 6, 1908.

- N**O 900,132. Automatic air hose coupling. N. Toy, Weir, Kans.
 900,182. Syringe. [Vaginal.] K. L. Mayers, St. Louis.
 900,223. Bottle stopper. J. H. Smith, Portland, Me.
 900,226. Ear trumpet. B. S. Stephenson, Brooklyn, N. Y.
 900,465. Overshoe fastener. J. H. Auld, De Haven, Pa.
 900,498. Pneumatic tire. H. W. Dover, Northampton, England.
 900,499. Shoe protector. A. Eckhard, Jr., New York City.
 900,565. Vaginal syringe. K. L. Mayers and M. B. Benas, St. Louis.
 900,610. Pneumatic pad. H. E. Stow, Windsor, N. Y.
 900,628. Attachment for rubber stock machines. Lida A. Wells, Akron, O.
 900,653. Packing. A. F. Book, Chalfont, Pa.

Trade Mark.

- 36,961. New Jersey Car Spring and Rubber Co., Jersey City, N. J. The words *Red Oak*. For rubber packing.
 36,969. United Drug Co., Boston. The word *Rexall*. For hot water bottles and fountain syringes.

ISSUED OCTOBER 13, 1908.

- 900,785. Vehicle tire protector. J. E. Robinson, Chicago.
 900,867. Cushion for footwear. B. N. B. Miller, Hartford, Conn.
 900,888. Pneumatic tire. A. C. Rudland, Vancouver, Canada.
 901,006. Apparatus for curing or vulcanizing rubber goods. E. Hopkins, East Orange, N. J., and T. Midgley, Hartford, Conn.; said Hopkinson assignor to The Hartford Rubber Works Co.
 901,007. Method of curing or vulcanizing the outer shoes or casings or pneumatic tires. *Same*.
 901,064. Rubber sandal. A. O. Bourn, Providence, R. I.
 901,093. Means for molding hot water bottles. T. M. Gregory, Akron.
 901,100. Syringe [vaginal, valve]. A. H. C. Heitman, Detroit, Mich.
 901,132. Overshoe clamp. E. W. Waltz, Newberry, Pa.
 901,195. Sink stopple. W. F. Schacht, Goshen, Ind.
 901,211. Pneumatic tire. [Protective fabric.] F. W. Taylor, Ashland, Va.
 901,236. Pneumatic cushion insole. W. L. Gordon, Deal, N. J., assignor to Pneumatic Heel Cushion Co., Asbury Park, N. J.
 901,244. Tire for vehicle wheels. E. Kempshall, assignor to Kempshall Tyre Co. of Europe, Ltd., all of London, England.
 901,300. Armored cover for the protection of rubber tires. [Of leather.] P. L. D. Rovere, Bagnaria, near Viterbo, Italy.

Trade Marks.

- 32,542. Lambertville Rubber Co., Lambertville, N. J. The representation of "the big stick" grasped in a hand. For rubber boots and shoes.
 36,888. Ajax-Grieb Rubber Co., Trenton, N. J. The word *Ajax*. For automobile and cycle tires.

ISSUED OCTOBER 20, 1908.

- 901,332. Insulating material. W. E. Everette, Tacoma, Wash.
 901,335. Milking device. J. A. Gallup, Voluntown, Conn.
 901,376. Massage and vibratory dilator. H. H. Roberts, Lexington, Ky.
 901,496. Skirt marker. A. M. Sutton, Allegheny, Pa.
 901,527. Cover for pneumatic tires. I. J. D. Fairhurst, Orfordville, Wis.
 901,528. Antislipping tire cover. *Same*.
 901,602. Tire cover and fastening means therefor. *Same*.
 901,654. Grip tread for pneumatic tires. B. H. Sills, Ottawa, Canada.
 901,842. Detachable shoe for self propelled vehicle wheels. W. P. Shattuck, Minneapolis, Minn., assignor of one-half to M. McVoy, Jr., New York City.
 901,907. Wheel [with pneumatic tire between metal plates]. A. L. Jimenez, assignor to W. Freeman, J. L. Jimenez, and J. M. Rigau Carrera, all of New York City.

Trade Marks.

- 33,281. The Packard Electric Co., Warren, Ohio. The word *Packard*. For insulated wires.
 35,232. The Cravenette Co., Ltd., Bradford, England. The word *Cravenette*, in a rectangular line border. For waterproofed fabrics.

ISSUED OCTOBER 27, 1908.

- 902,009. Vehicle tire. [Solid rubber.] F. A. Stall, Jr., Darlington, S. C.
 902,015. Tire protective rivet. E. B. Stimpson, assignor to Edwin B. Stimpson Co., Brooklyn, New York.
 902,143. Weather strip. S. Frigone, Chicago.
 902,147. Tire. [Pneumatic.] E. T. Greenfield, Kiamasha, N. Y.
 902,212. Sectional tire. H. O. Craven, Schenectady, N. Y.
 902,233. Pencil cushion. G. F. Ireland, Fort Totten, N. Y.
 902,276. Tire protector. F. G. Crone, Buffalo, N. Y.
 902,308. Hose making machine. J. S. H. Lovett, Trenton, N. J., assignor of one-third each to T. P. Payne, Newark, N. J., and W. W. Near, Toronto, Canada.
 902,309. Nozzle. J. F. MacWilliam, Hubbardston, Mass.
 902,318. Packing and process of producing same. J. Ostrander, Indianapolis, Ind.

- 902,330. Manufacture of tennis and similar playing balls. F. Rowley, Whaley Bridge, England.

Trade Marks.

- 37,052. Goodyear Rubber Co., St. Paul, Minn. The words *Square Deal*. For rubber footwear and clothing.
 37,054. Heed Rubber Co., Boston. The word *Olympic*, within a wreath. For rubber footwear.
 37,425. American Rubber Co., Boston. The representation of a tree and the words *Old Elm*, within a diamond shaped border. For rubber footwear and clothing.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1907.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 9, 1908—CONTINUED.]

- 11,839 (1907). Pneumatic tire. [Relates to the beads of the cover.] A. Latimer, Alpertown, Middlesex.
 11,840 (1907). Pneumatic tire. [Relates to the tread.] *Same*.
 *11,898 (1907). Canvas protecting tread for rubber soles and heels. P. W. Pratt, Boston, Massachusetts.
 11,900 (1907). Portable vulcanizer for tires. E. Anselmi, Viterbo, Italy.
 11,904 (1907). Tools for removing or replacing tire covers. G. A. Bainbridge, Sutton, Surrey.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 16, 1908.]

- 12,143 (1907). Non-skid studs for tires. G. Freeland, Tonbridge, Kent.
 12,191 (1907). Tire rim with detachable flange. G. H. Painter, London.
 12,246 (1907). Tire formed of arc shaped rubber blocks. Soc. des Anciens Etablissements Falconnet-Perodeaud, Choisey-le-Roi, France.
 12,417 (1907). Device for detecting tire punctures while the car is in motion, and giving an alarm to driver. C. H. Stanley, Walshall, Staffordshire.
 12,499 (1907). Detachable tire carrying rim. T. Truscott, Bristol.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 23, 1908.]

- 12,789 (1907). Vapor bath. H. Earl, Richmond, Surrey.
 12,815 (1907). Device for sounding an alarm on the deflation of a pneumatic tire in running. L. E. Cowey, Kew Gardens, Surrey.
 12,861 (1907). Pneumatic tire with sectional metal tread. S. M. Brown, London.
 12,862 (1907). Pneumatic cushion for use with vehicle springs. C. Billington, Stoke-on-Trent.
 12,871 (1907). Electrically heated vulcanizer. F. J. Goormall and Union Rubber and Chemical Co., Manchester.
 12,901 (1907). Detachable tire carrying rim. E. Herbert, Bristol.
 12,934 (1907). Pneumatic tire cover. P. Lansade-Desprez, Lyons, France.
 13,101 (1907). Double ended air tube for tires. W. Jenkins, Llangeinor, Glamorgan.
 *13,141 (1907). Anti-skidding tread for tires. T. Midgeley, Hartford, Connecticut.
 13,203 (1907). Pneumatic tire cover. W. G. Heys, Manchester. ("Atretos") Soc. Anon. par Azioni, Rome, Italy.)

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 30, 1908.]

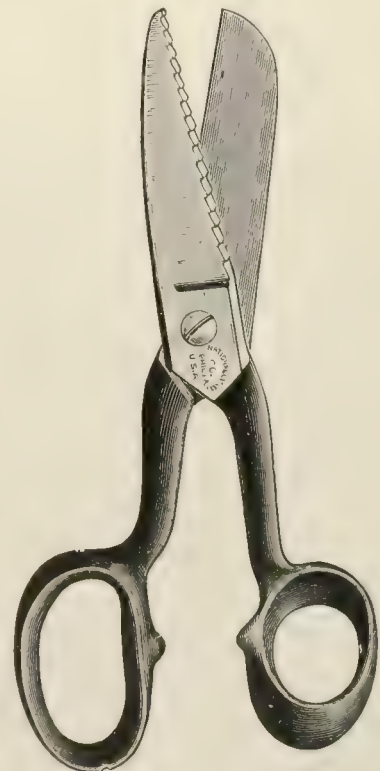
- 13,264 (1907). Hose pipe joint. Société Métallurgique du Périgord and L. Billé, Paris, France.
 13,393 (1907). Lawn sprinkler. J. Sawyer, Southport, Lanes.
 13,317 (1907). Method of securing spare tires to a vehicle. R. Jinks and W. W. Figgins, London.
 *13,337 (1907). Cushion tire for clincher rim. E. Kempshall, London.
 13,418 (1907). Non skid device for tires. J. O'Brien and A. G. O'Brien, Wimbledon.
 13,488 (1907). Twin solid tire in segments. A. Schultze, Mörs, and J. Klostermann, Vluyt, Germany.
 *13,490 (1907). Spring wheel and elastic tire. G. Harrison, London. (Wood's Cushion Heel and Tire Co., New York.)
 13,564 (1907). Pneumatic tire cover. A. Bryan, Kettering.
 13,589 (1907). Motorists' goggles. J. and J. Schoenfeld, Paris, France.
 13,711 (1907). Pneumatic tire. H. A. Winkelmann, and two others, Neuchâtel, Switzerland.
 13,817 (1907). Spring wheel and pneumatic hub. A. N. Argenti, Bedfordshire, and Middletown Pneumatic Hub Co., London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, OCTOBER 7, 1908.]

- 13,908 (1907). Method of and apparatus for washing india-rubber and gutta-percha. F. Kempter, Stuttgart, Germany.

- 14,008 (1907). Detachable tire carrying rim. W. Wright, Coventry.
 14,008 (1907). Tire of solid rubber blocks with helical spring underneath. T. Topping, Edinburgh.
 14,022 (1907). Means for automatically closing punctures in inner tubes. J. Lindharth, and L. Jensen, Copenhagen, Denmark.
 14,048 (1907). Pneumatic tire covers strengthened by a foundation of chain mail enclosed in layers of rubber and canvas. G. France-Hayhurst, Wellaton.
 14,142 (1907). Tire inner tube with sealed ends. W. Barron, Above Bar, Southampton.
 14,160 (1907). Segmental pneumatic tire. N. Becker, Düsseldorf, Germany.
 14,164 (1907). Detachable rim for pneumatic tires. T. E. Doolittle, Toronto, Canada.
 *14,201 (1907). Tools for applying and removing tire covers. A. A. Long, Rochester, New York.
 14,220 (1907). Tire removing lever. J. H. Holding, Accrington.
 14,446 (1907). Overshoe. S. P. Langdon, Toronto, Canada.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, OCTOBER 14, 1908.]
- 14,481 (1907). Cow milking device. R. Kennedy, Glasgow.
 14,533 (1907). Cow milking device. A. Gillies, Heidelberg, Victoria.
 14,682 (1907). Pneumatic tire tread. J. Lemoine, Paris, France.
 14,696 (1907). Wheel with supplementary tires of solid rubber on either side of an ordinary pneumatic tire, to take the weight of the vehicle in case of a puncture of the latter. G. Macbeth, Liverpool.
 14,769 (1907). Wading trousers or boots. S. Mundy, London.
 14,785 (1907). Vulcanizer for tire tubes and covers. R. Davis, Biddulph.
 14,791 (1907). Rim for pneumatic tires. C. T. B. Sangster, Birmingham.
 14,814 (1907). Boot sole or heel. G. L. Porter, Leicester.
 *14,837 (1907). Metal studs to prevent rubber heels from slipping. B. G. Perkins, Vallejo, California.
 14,880 (1907). Machine for molding rubber cords and tubes. Bertrams, Ltd., and R. F. Gillespie, Edinburgh.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, OCTOBER 21, 1908.]
- 15,222 (1907). Cow milking device. G. H. F. Berglund, Stockholm, Sweden.
 15,235 (1907). Boots made of waterproof fabric and covered with a layer of caoutchouc. M. Pomortzeff, St. Petersburg, Russia.
 15,242 (1907). Device for detecting punctures in tires. A. S. Whitmore, Prescott, and G. McKinnon, St. Helens.
 15,344 (1907). Detachable rim for tires. Michelin et Cie., Clermont-Ferrand, France.
 15,345 (1907). Detachable rim for tires. Same.
 15,378 (1907). Pneumatic tire inner tube. A. Latimer and C. King, Isleworth.
 15,380 (1907). Belting of duck and balata and gutta-percha. A. E. Taite, Datchet.
 15,499 (1907). Detachable rim for tires. W. T. Smith, Bolton.
 15,506 (1907). Rubber cushion ball for out of door game similar to billiards. W. H. Johnson, Manchester.
 15,528 (1907). Detachable rim for pneumatic tires in segments. J. Hopper, London.
 15,542 (1907). India-rubber substitute. J. Ohm, Dortmund, Germany.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, OCTOBER 28, 1908.]
- 15,613 (1907). Detachable rim for pneumatic tires. W. E. Rowcliffe, Manchester.
 15,616 (1907). Screw extrusion press for molding tubes and other articles from waste rubber. T. Gare, New Brighton.
 15,631 (1907). Segmental tire of solid rubber. T. Wright, Worcester.
 15,682 (1907). Tire inflating pump operated by the car. A. Varisco, Turin, Italy.
 15,697 (1907). Solid rubber tire having floating spring rings. J. Slee, Newton-le-Willows.
 *15,699 (1907). Solid rubber tire. J. Allend, Philadelphia, Pennsylvania.
 15,724 (1907). Detachable rim for pneumatic tires. W. A. Turpin, London.
 15,855 (1907). Detachable rim for pneumatic tires. T. Shepherd, Birmingham.
 16,006 (1907). Manufacture of tennis and like balls. F. Rowley, Whaley Bridge.
- 389,210. (April 14). T. Gare. Machine for reducing vulcanized rubber.
 389,287. (April 16). J. Werlein. Pneumatic tire cover.
 389,315. (April 17). A. G. Inrig. Rubber substitute.
 389,468. (April 21). C. Simon. Elastic tire.
 389,502. (April 22). J. Turio and E. Loue. Vulcanizer.
 389,538. (April 24). J. F. Palmer. Pneumatic tire and method of its manufacture.
 389,541. (July 1, 1907). L. Barault and P. Boucher. Elastic tire.
 389,567. (April 7, 1908). J. Clerget. Vehicle tire.
 389,623. (April 25). Société "The Hartridge Tire Syndicate, Ltd." Pneumatic tire.
 389,629. (April 25). Société des Anciens Etablissements Falconnet-Pérodeaud. Multiple pneumatic tire.
 389,662. (April 27). E. Lapisse. Rubberized leather.
 389,685. (April 28). H. Palmer. Elastic tire.
 389,676. (April 28). J. F. d'Abbedie. New application of rubber for billiard cushions.
 389,723. (April 30, 1908). F. Boné. Metal protector for pneumatic tires.
 389,755. (May 1). P. A. Gentile. Device for inflating balloons.
 389,797. (July 9, 1907). A. Welber. Multitubular tire.
 389,862. (May 4, 1908). H. Subert. Renewable protective tread for tires.
 389,878. (May 4). E. Cassereau. Elastic tire.
 389,920. (May 2). E. Lutscher. Method of applying heels to boots of all kinds.
 390,081. (May 9). H. Kuhnén. Tire.
 390,132. (May 11). The Beresford Rim Co., Ltd. Wheel and pneumatic tire.
 390,148. (May 12). G. Graham et W. Drury. Pneumatic tire cover.
 390,202. (May 13). Ollier. Leather protector for tires.
 390,183. (May 13). R. Neufeld. Manufacture of an elastic mass having a base of gelatine, as a substitute for rubber.
 390,295. (May 15). A. Ernst. Pneumatic tire covers involving the use of leather.
 390,363. (May 18). E. Sabata y Roer. Elastic tire.
 390,537. (May 25). Giesen et Ryan. Pneumatic tire cover.
 390,662. (May 29). L. E. Covey. Pneumatic tire cover.
 390,637. (Aug. 3, 1907). J. Basler et Cie. Process for the treatment of scrap rubber.
 390,853. (June 2, 1908). The Continental Co. Elastic tire.
 390,893. (June 4). G. Knadler. Elastic tire.
 390,915. (June 5). W. J. Thorold. Pneumatic tire.
 390,964. (May 14). Karl Kaufmann & Cie. Elastic tire.
 390,968. (May 16). A. C. Brémont. Leather cover for pneumatic tires.
 391,005. (June 6). H. G. Pascal. Elastic tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Robet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]



BELT RUBBER AND PACKING SHEARS.

[Patented and manufactured by the National Cutlery Co., Philadelphia.]

THE FRENCH REPUBLIC.

Patents Issued (with Dates of Application).

- 388,673. (March 28, 1908). A. H. Devenoge. Process of grinding vulcanized rubber.
 388,681. (March 30). E. Kauert. Bead for pneumatic tire cover.
 388,716. (March 31). R. Gridl. Elastic tire.
 388,770. (April 1). C. V. Baudonnel. Fabric for tire covers.
 388,789. (April 2). S. Mery. Metal protector for wheel tires.
 388,849. (March 2). Lefferts and de Camp. Reinforced pneumatic tire.
 388,949. (April 6). E. Kempshall. Protected tire.
 388,957. (April 6). Société Anonyme des Pneumatiques "Cuir" Samson. Studs for attaching treads to pneumatic tires.
 389,113. (June 18, 1907). Société Anonyme des Etablissements Hutchinson. Manufacture of pneumatic tires.
 389,161. (April 13, 1908). G. Herbin. Multiple pneumatic tire.
 389,181. (June 19, 1907). Société d'Exploitation des Brevets et Procédés Prosper Nivet. Machine for making pneumatic tire covers.
 389,199. (April 14, 1908). A. Bryan. Pneumatic tire cover.
 389,260. (April 15). P. Chevalier. Manufacture of covers for pneumatic tires.

The Obituary Record.

JOHN ROYLE, SR.

JOHN ROYLE, SR., founder of the machinery manufacturing concern of John Royle & Sons (Paterson, New Jersey), died on October 31, after an illness of less than a week, in his eighty-sixth year, though he had been in failing health for more than twelve months.

Mr. Royle was born November 22, 1822, in Cheshire (Chester County), England, near Manchester, where his family had resided for many years. In 1830 the family removed to America, and they settled finally at Paterson. Mr. Royle received little schooling and at an early age was put to work in a cotton mill there, at a time when cotton was king in Paterson. He went to work at 5 in the morning and got through at 8 in the evening, and for six days' labor of this sort received \$1, which was then esteemed a very fair rate of wage for a boy. In 1838, after six years of this kind of service, John Royle left the cotton mill and entered as a machinist's apprentice the works of Rogers, Ketchum & Grosvenor, later known as the Rogers Locomotive Works. A year later Royle's father died, leaving a widow dependent largely upon the oldest son.

Young Royle soon won the liking and confidence of Thomas Rogers, then the head of the shop. It is worthy of note that Royle did the first lathe work on the first locomotive manufactured in Paterson, and thus helped to make famous the Rogers output, than which the output of no locomotive works afterwards ranked higher. On account of his application to this work Royle became so ill as to be compelled to quit the shop, after which he became employed in other establishments turning out high-grade machinery until 1860, when he determined to start in business on his own account.

On account of the outbreak of the Civil War he was not successful at first, but in 1863 he successfully laid the foundation of what is now the great industrial establishment of John Royle & Sons, at Paterson. Here have been manufactured many special types of machinery, including the Royle tubing machine, which is known to the rubber industry all over the world, together with some other apparatus of wide-spread use in the rubber industry.

Mr. Royle retired from the active supervision of the business

in 1887, leaving the management of its affairs in the hands of two sons, Vernon Royle, his eldest, who came into the business in 1879, and John Royle, Jr., who became identified with the firm in 1875. Three grandsons are now also identified with the business. Mrs. Royle died about four years ago. There was one other son, Edward, who has been dead many years. Funeral services were held on the afternoon of November 3, from the late residence of Mr. Royle, 200 Summer street, Paterson, and the interment was at Cedar Lawn cemetery in that city.

F. A. C. PERRINE.

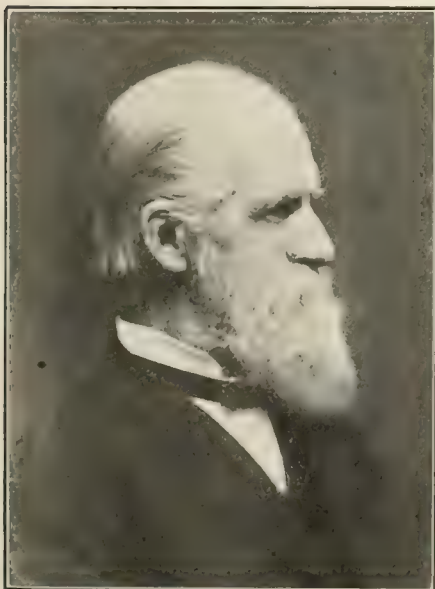
THE death of Frederick A. C. Perrine, A. M., D. SC., was reported briefly in the last THE INDIA RUBBER WORLD (page 64). Dr. Perrine was born in Manalapan, New Jersey, in 1862, and received his education at the Freehold Institute and from Princeton University, from which latter institution he was graduated in 1883; later he pursued there a postgraduate course for two years, receiving his degrees at the same institution. His subsequent work in the insulated wire departments of important concerns at Trenton, N. J., have been mentioned already.

From 1898 to 1900 he was chief engineer of the Standard Electric Co., of California, and in 1900 was made president of the Stanley Electric Manufacturing Co. (Pittsfield, Mass.), which office he filled for four years, retiring on the purchase of the latter by the General Electric Co. to enter practice as a consulting electrical engineer in New York. From 1893 to 1900 he was professor of electrical engineering at Leland Stanford, Jr., University, California. His work as chief engineer of the first great long-distance electric transmission line in America—that of the Standard Electric Co., of California—attracted world-wide attention, and in recognition of this he was awarded a gold medal at the Paris Exposition of 1900.

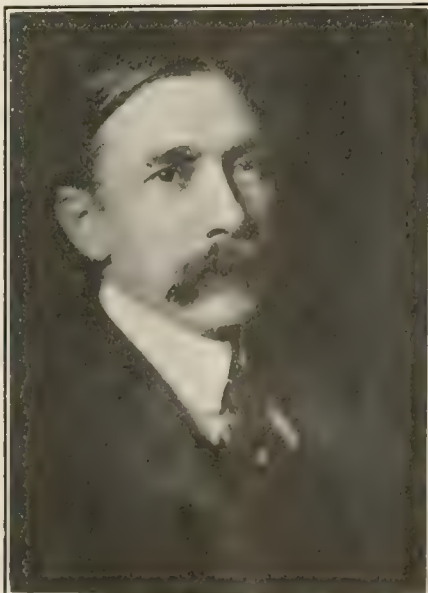
Dr. Perrine's interment took place on October 22, at Old Tennent church, near Freehold, N. J. In 1892 Dr. Perrine married Margaret Roebbling, daughter of Ferdinand W. Roebbling, of Trenton, who, with their three children, survive him.

HENRY FOX TAINTOR.

HENRY F. TAINTOR, who died rather suddenly on November 9, at Newfoundland, New Jersey, where he had gone for his health, was



JOHN ROYLE.



F. A. C. PERRINE, A. M., D. SC.



HENRY FOX TAINTOR.

president of The H. F. Taintor Manufacturing Co. (New York), whose products are widely known in the rubber industry, and The American Whiting and Putty Manufacturing Co. He was born in Buffalo, N. Y., on June 30, 1833, and educated at the Homer Academy in that city. He engaged in railway enterprises in Wisconsin, and in 1862 removed to New York city, where he became associated with the Hon. Samuel J. Tilden, then one of the most notable lawyers in the country and later Democratic candidate for president of the United States, in the financial management of Western railways. Mr. Taintor was an enthusiastic ally of Mr. Tilden in the campaign that led to the dethronement and exile of the one time New York political "boss," William Marcy Tweed. Mr. Taintor is said to have devoted six years to gathering evidence against the Tweed "ring," and he was the chief witness in the public investigation of the looting of the city treasury, with the result that large sums were returned to the city.

Mr. Taintor was at one time a member of the banking firm of Taintor & Dyett, in New York. After becoming connected with the business firms above noted he devoted great energy to their development, and it is mentioned that, in case of The H. F. Taintor Manufacturing Co., he signed all their checks up to the date of his death. Mr. Taintor was a direct descendant of Charles Taintor, who landed in Connecticut in 1643. He was a trustee of the Metropolitan Museum of Art and a member of the Union League Club, of New York. He is survived by a widow and a son and daughter, the son, Starr Taintor, being treasurer of The Taintor Manufacturing Co.

JAMES FERGUSON.

JAMES FERGUSON died at his home in Bayonne, New Jersey, on November 16. Born on a farm, he made his way to New York city and started upon his life career as an electric lineman. He profited from his opportunities to such an extent that in a few years he was able to take part, in 1881, in an important



JAMES FERGUSON.

capacity in organizing the first electric lighting company in the borough of Brooklyn, then an independent city. The shares in this enterprise, first sold at 50 cents each, have been quoted since as high as \$400. Eleven years later Mr. Ferguson was made manager of the Brooklyn 000. The company then capitalized at \$1,500,000. The company, then becoming amalgamated with another, Mr. Ferguson accepted the management of the McCray Conduit Co., service of which his inventive and administrative ability found wide scope, and brought him good returns. Later Mr. Ferguson accepted a position with the Safety Insulated Wire and Cable Co., then located in New York, in West Twenty-eighth street, whose extensive plant he assisted to remove to Bayonne, New Jersey, where it is now located. Mr. Ferguson, became superintendent if the Safety Company, his fertile brain enabling him to contribute to their practice many important new processes and devices. The strain of many years of hard work caused a partial breakdown, to recover from which he underwent a serious operation; followed by a visit to Europe in search of relief, from which he returned recently to end his days with his family. Mr. Ferguson is survived by a wife, two daughters,

and a son—the latter now employed in the electrical department of the Safety company's plant at Bayonne.

GEORGE A. BURNHAM.

GEORGE A. BURNHAM, general factory manager for Morgan & Wright (Detroit, Michigan), was instantly killed on November 14, while duck hunting near Pearl Beach, Mich. While accompanied by three other members of the Morgan & Wright staff, none of them was within hailing distance when the accident occurred. The body was taken to Detroit on a special car the next morning.

Mr. Burnham was born in Portland, Me., October 1, 1874. His parents dying while he was in infancy, he was cared for by relatives in Boston, where he attended the public schools. In 1893 he went to Chicago and obtained employment in the bicycle tire department of the Morgan & Wright factory, then located in that city. He advanced rapidly, becoming superintendent and then factory manager. When their plant was removed to Detroit it devolved upon Mr. Burnham to do much of the planning of the new factory from the standpoint of a man who knew best how to economize in time and labor. Mr. Burnham was a recognized automobile tire expert, and there were few men in Detroit automobile circles more popular than he. Mr. Burnham was a Knights Templar and Mystic Shriner. He is survived by a widow and three young children—two sons and a daughter.

FURMAN PEARSALL.

FURMAN PEARSALL, whose great grandfather was the original settler of the village of Pearsall, Long Island, died on November 15 at his home, 1259 Pacific street, Brooklyn, in his twenty-eighth year. He was connected with the Voorhees Rubber Manufacturing Co. (Jersey City, New Jersey). He was a member of the Twenty-third regiment, New York State National Guard, and the Belle Harbor Yacht Club. His wife and a son survive.

THE LATE THEODORE S. BASSETT.

The following tribute of respect to the late Theodore Sheldon Bassett, an obituary notice of whom appeared in the last INDIA RUBBER WORLD, has been paid by the New England Rubber Club:

WHEREAS, The sad news of the sudden death of our friend and fellow member, Theodore S. Bassett, has come as a great shock to the members of the New England Rubber Club—the pioneer and leader in one of the most important developments of recent years in the rubber trade, the importance and value of his work having been of untold benefit to rubber manufacturers the world over, and a member of our Club from its inception, his sterling qualities, both as a business man and associate, commended himself to all, and his loss will be most keenly felt in every part of the rubber trade.

Resolved, That this Club extend to his family its sincere and most heartfelt sympathy.

Resolved, That these resolutions be spread upon the records of the Club, and copies engrossed and sent to his family, and to his business associates.

GEORGE P. WHITMORE,
ELSTON B. WADSBROOK,
ALEXANDER M. PAUL,
Committee on Resolutions.

Boston, October 21, 1908.

THE automobile drive of Mr. Frank A. Moore from Los Angeles to Walla Walla, shows the efficacy of rubber as a tire. The distance covered was 1,880 miles, and it was made without change of tires, and only one puncture occurred during the entire trip. Mr. Perkins, of the Sterling Rubber Co., on Second street, states that the sundries business is still very good, although there has been but little change in other lines. The outlook, however, is entirely favorable for an excellent business next spring.

It is announced that a chair has been endowed at the University of Liverpool for instruction in the Spanish language, on account of the growing importance of the knowledge of Spanish in the extension of the commerce of English speaking countries. This should serve as an example to Americans, in view of the fact that the United States is the industrial country of importance most closely related naturally to the great Spanish speaking world of southern America.

London's Great Rubber Heel Show.

THE American trade was represented to an unusual extent this year at the International Shoe and Leather Fair, held at Agricultural Hall, London, November 2-7. With the exhibit of leather in general and leather shoes in particular THE INDIA RUBBER WORLD, of course, has little concern, though mention may be made of the extensive exhibit, occupying eight "spaces," of the British United Shoe Machinery Co., Limited, of Leicester, which duplicates abroad the work of this important company in the United States. A full line of this company's output of machinery was shown—so extensive that a mere list would fill a page of THE INDIA RUBBER WORLD. The Singer Sewing Machine Co., Limited, also had an extensive exhibit, including several types of machines well known in the rubber trade. Several items in their display were described as "goloshing and vamping" machines—a term unusual in the United States.

The American rubber factory trade was represented by the following:

United States Boot, Shoe and Leather Co., Goswell road, London (Space No. 5).—A full range of "Candee" and "Federal" brands of rubber footwear, including the "Fairy" brand and a few novelties suitable for Louis heel goods.

Hood Rubber Co., Limited, High street, London—the foreign branch of the Hood Rubber Co., of Boston (Spaces 20 and 223).—Men's, women's and children's rubber boots and shoes. The Hood representation in Europe formerly was in the hands of C. W. Randall & Co., American boot importers, who used part of the same spaces for various leather footwear products.

The B. F. Goodrich Co., Snow Hill, London (Space 706A).—"Goodrich" straightline rubber oversoles, "Goodrich" revolving heels, "Majestic" heels, O'Sullivan rubber heels and soles.

Mention may be made also of some American products, which figured in the display of Howison & Co., Limited, London (Space 630).—Here were "Penna" rubber heels, in various styles, manu-

factured at Jeannette, Pennsylvania, and Maynard summer shoes.

The Boston Blacking Co., Limited, Leicester, are, of course, the English branch of a long established American firm, who exhibited, among other products, their rubber cements.

The British rubber trade was represented by some important firms engaged in the industry generally, first of which may be noted:

The India Rubber, Gutta Percha and Telegraph Works Co., Limited, Silvertown (Space 14).—Their display included "Gray-silver" and other brands of rubber heels, revolving pads, rubber soles and some general rubber goods.

The Dunlop Rubber Co., Limited, Birmingham (Space 35), showed rubber heels and soles in plain and fancy patterns, pneumatic soles and heels for sporting boots and shoes, and sheet rubber of various descriptions.

North British Rubber Co., Limited, Edinburgh (Space 104).—Rubber overshoes, snow "Wellington," "Napoleon" and fishing boots, canvas shoes (Plimsolls), "Douglas" tennis shoes, in-step pads, rubber soles, football bladders and rubber goods generally.

The London house of the French company, Etablissements



PAD CARRYING INSURANCE POLICY.

Hutchinson (Space 116), exhibited a large assortment of rubber overshoes and boots and Plimsoll and gymnastic shoes.

Calmon Asbestos and Rubber Works, Limited, representing the important Hamburg house of Calmon (Space 203), exhibited overshoes, white evening dress overshoes, overboots for chauffeurs, gymnasium shoes, Plimsolls, white sporting shoes, snow boots and rubber footwear generally for export to different countries.

But the preceding list by no means exhausts the rubber features of the show. Heels have been mentioned in connection with most of the exhibits referred to, but there were other heels. It was, in fact, a rubber heel show. The concerns devoted to this output alone were:

The Revolite Co., Limited, Manchester (Space 10).

The Palatine Heel Co., Preston and London (Space 17).

Redfern's Rubber Works, Hyde (Space 18).

Phillip's Patents, Limited, London (Space 31).

Wood-Milne, Limited, Preston (Spaces 41 and 138).

The Danipad Rubber Co., London (Space 46).

Lancashire Revolving Rubber Heel Co., Manchester (Space 118).

The Nuform Rubber Heel Co., Leicester (Space 126).

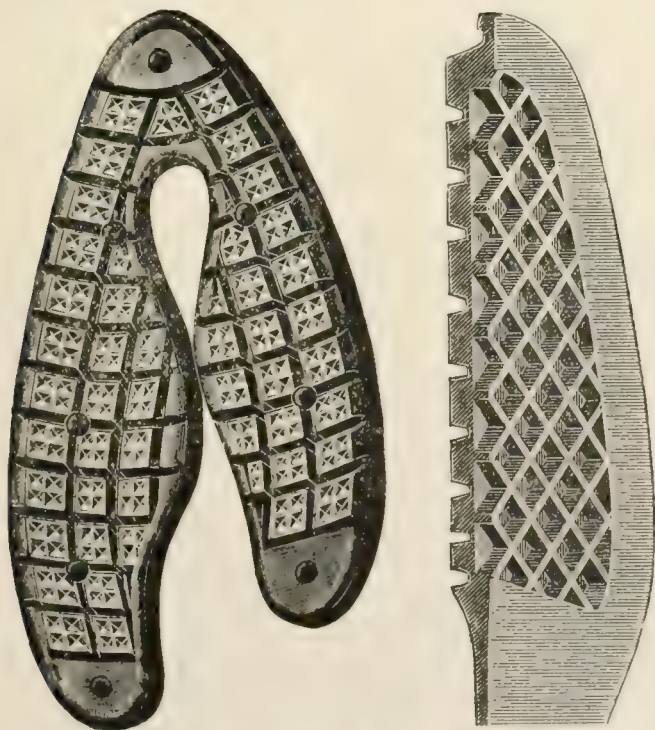
The Harboro' Rubber Co., Market Harboro' (Spaces 222 and 421).

The "Lagos" Rubber Works, Stockport (Space 239A).

Spencer's Patent Combined Rubber and Leather Heels, London (Space 245).

Tacipeds, Limited, Birmingham (Space 661).

The India Rubber Manufacturing Co., London (Space 713).



NEW DETAILS IN RUBBER SOLES.

[On the left—the Harboro' patent adjustable sole, showing under surface. On the right—Harboro' patent tennis sole, cut through the center.]

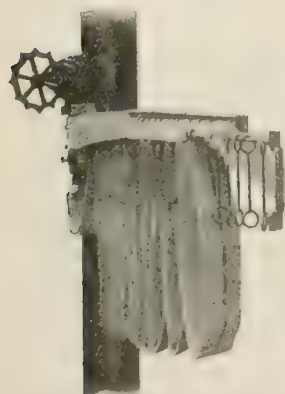
The Leicester Magic Polish Co., Limited (Space 7), in addition to a wide variety of other products, exhibited "Magic" rubber heels and rubber tips.

Many of the companies mentioned as engaged in the rubber heel business operate factories of their own, and most of the others have contracts with rubber manufacturing establishments of standing that amount to an important figure during the course of a year. There are no statistics of the volume of the rubber heel trade in Great Britain, where this particular feature of the industry seems to have been developed on a larger scale than in any other country. The business in America is, however, not unimportant, since one home concern mentioned in connection with the London show is currently reported to be doing a good business of \$2,000,000 or more a year.

THE INDIA RUBBER WORLD, May 1, 1904 (page 278) contained what was in those days a comprehensive article on "The Revolving Heel in England," illustrating a considerable number of types, but since that day the extent of the trade and the variety of the product has increased enormously. Some of the new designs shown at Agricultural Hall are illustrated in connection with this article. There is also in THE INDIA RUBBER WORLD (September 1, 1904—page 414) an article on "The Manufacture of Rubber Heels," which may still prove of interest.

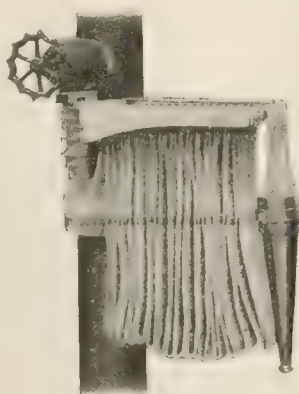
HOSE RACK LITIGATION ENDED.

AFTER more than two years of litigation, a patent has finally been awarded the W. D. Allen Manufacturing Co. (Chicago) for a certain type of pin hose rack—the Bowes rack—used for unlined linen hose, which gives to that enterprising firm a monopoly on this type of hose rack. The essential features of the rack are shown in the cuts herewith. Cut No. 1 shows the hose in the process of being pulled from the rack. The loops are suspended on the pins and by means of an extension arm, shown in the cut, when the hose is withdrawn the pins are retained on the extension arm and the hose rapidly pays out. A quick and short pull on the hose will bring all of the hose to the floor after it has once acquired a momentum, and it has also been found by experiment that the hose will clear itself from the rack by the pressure of the water when it is turned on.



[The hose supports remain on the extension arm of rack as hose is drawn off.]

BOWES HOSE RACK.



[Hose in position to be drawn off.]

BOWES HOSE RACK.

The advantage of this rack over other types of pin racks is, that the pins are retained on the rack and do not fall to the floor as in the case of the others. The rack is simple in construction, fulfilling all requirements of a pin hose rack, and is made in a variety of forms and any kind of finish.

There are other racks on the market which conflict on the Bowes patent, and the firm announce their intention of prosecuting any infringement.

RUBBER VALORIZATION—A MANAOS VIEW.

[FROM "REVISTA DA ASSOCIACAO DO AMAZONAS."]

"VALORIZATION of India-Rubber" is the title of several articles that have appeared in the daily papers. We also see the word frequently used in official reports. It seems about time to study this question, in order to avoid erroneous ideas pervading the minds of those who are not familiar with our commercial life, or with the factors that govern the situation of a world product, such as our rubber is.

In the first place, we must object to the term "valorization," which is apt to lead to wrong interpretation. Only a thing that has been depreciated can be "valorized." Is our rubber depreciated at the present moment? Many think not. But it was during the first six months of this year, when the price fell to 2s. 9d. [=66¾ cents] in Liverpool; to-day it is quoted in the consumers' market above 4s. [=97½ cents], which is a higher price than the article ever touched in all the period of its existence, excepting the last two years.

To be anxious to enhance, by artificial means, the price of an article that is already being quoted at an attractive figure, is an absurdity, and nothing else but a speculation. It is this speculation that we must strongly condemn, because it disturbs the economic equilibrium of a whole nation, when we consider that it is its principal, if not its only product. There is speculation for both the rise and the fall. The latter is naturally odious to us; the first is looked upon more kindly. Nevertheless, we must not pass it by without censure. A speculation for the rise, that is to say, the forcing up of a commodity to a fictitious price—one that does not correspond to its intrinsic value—cannot fail to meet some day with its due reaction, which will be the worse in proportion as the speculation has been greater.

Every commodity has its intrinsic value, dictated by the demand and the supply. If the former exceeds the latter, the regulator of the two factors—namely, the price—comes into play. Too high a price restricts the demand and stimulates the supply, promoting by this means, after a while, the return to a proper equilibrium. In the opposite case, when the demand at a given moment remains below the supply, it is again the price that regulates the situation; it either restricts the supply or increases the demand, or does both things.

That is what happened with our rubber toward the end of the last decade.

The overproduction of pneumatic tires for bicycles caused an enormous demand for rubber, greater than the supply of it. In consequence the price rose from 2s. odd to 4s. odd. But at the same time, this figure, inviting to the planter, stimulated the production not only here, but was also the cause of the activity displayed on every rubber plantation in the world. The inevitable reaction to this overproduction of tires came, and the demand for rubber for them being suddenly and enormously reduced, prices went down. The fall was so much greater, because many industries had been compelled by the first price of our rubber to take in supplies of inferior quality, upon which they were then relying. The drop in prices did not fail to have in turn its reaction, and the normal equilibrium was slow to return.

The crisis we have just passed shows about the same course and the same features, the only difference being that this time the immediate cause was the overproduction of tires for automobiles, assisted by the financial crisis that last year pervaded the whole world. Since 1902 the prices of rubber have maintained an ascending line, from 3s. in that year to 5s. 8d. [=£1.37½] in 1905.

The encouraging state of the manufacturing industries and of business generally also increased the demand for rubber as well as the number of its applications, so that the supply, although always augmenting, scarcely sufficed to meet the demand. That caused the rise in price, which was checked only when the first large shipments began to arrive from cultivated plantations in

Asia. But in proportion as prices rose, many manufacturing industries become unproductive, and to make them pay they had to procure a substitute for the more expensive article. This was found, in the first place, in "reclaimed rubber," which is the rubber taken from worn-out manufactured articles. Special works have been erected for and large capitals are invested exclusively in this business. At the same time, search was made for other gummiferous plants, among which we will mention the most important, known as "guayule," a shrub found in Mexico and the south of the United States. Large companies were formed, and within a few years the output from this source had reached 5,000,000 kilos per annum, which was sold at a low price, owing to its inferior quality, but which all the same gave splendid returns to the companies exploiting it.

The exploration of "mangabeira" and "manisoba" in Brazil was given fresh impulse. In Africa and Central America the search for all kinds of trees, shrubs and plants was pushed with vigor, and inferior qualities were obtained, but without doubt more applicable to the manufacture of cheap articles, which could not have been made at a profit with our expensive rubber.

Thus gradually the manufacturing industries became free of their absolute dependence on our rubber. The latter continued to be exclusively used by such industries as could not do without it, the principal one among these being the manufacturing of tires for automobiles.

The number of its consumers being thus reduced, it had to feel strongly the fate of the former. When the tire industry suffered a shock similar to that of the tires for bicycles, our rubber increase had also to be shaken in the same manner. The principal consumer disappeared. The others were already lost through the high price of our rubber. With the remaining consumers our rubber had to keep up the competition, created by itself in the Asiatic plantations.

Meanwhile, and our production continuing unchanged, an accumulation of stock became inevitable, and this could only be levelled by a fall in prices to a figure low enough for us to regain the positions lost to its inferior competitors.

Then speculation took advantage of this state of things, and fostered an exaggerated drop of our rubber, which, however, among all the evils it brought home to us, had the effect of killing many competitors and of reducing others.

Our rubber, by its low price, regained the position in the different industries that it had held before, and by that means the demand increased considerably, until the visible stock on March 1, 1908, reached 7,113 tons, against 4,166 tons in 1907, and the figures on September 1 showed only 3,350 tons, against 2,915 tons the previous year.

Our rubber had, therefore, returned to its normal position, and on no account should this be altered by artificial means, always injurious in the end, and which benefit only a few, to the detriment of many.

Naturally, every article is subject to fluctuations. To wish to avoid that these take place in any violent form is quite praiseworthy; but when the commodity has already touched a sterling and reasonable price, it is foolish to attempt to enhance its value artificially, or to encourage a speculation that can end only in disaster.

We should rejoice to see the price of our rubber go up and be maintained at a paying level; but we must wish this as the result of a larger demand and the superiority of its quality, which means safety, and not as the result of a speculation, which spells danger.

We are facing the question purely from the viewpoint of the sterling value of the product, which is the standard foundation of its intrinsic work in relation to its competitors everywhere. If the equivalent of this sterling value in our currency does not compensate for the extraction, or that, on account of present prices the subject is open to question, then we must take steps to cheapen the cost of our production.

But, if we agree that present prices compensate the cost of production and yield reasonable profits, we must not on that account neglect the future, but bear always in mind the lessons of the past.

The price of 4s. or more for our rubber stimulates the production of its competitors everywhere, and sooner or later this quotation will be unable to hold.

We do not agree with those who noisily proclaim that rubber can be sold on the cultivated plantations at a profit for 1s. 6d, or 2s. The estimates shown to us always omit the important item of the enormous interest absorbed by the overcapitalization of companies, and do not take into account the question of labor, which is already occupying the serious attention of the managers of large plantations, and the cost of which, with the rapid development of the plantations themselves, will certainly increase. But what is sure is that the price of 3s., even discounting all unfavorable factors, will return to the planter a fairly remunerative profit.

Therefore we must make ready for the fight that unfortunately has to come, by fitting ourselves in good time. The course does not lie in a forced and fatally ephemeral valorization of the product, but in reducing the cost of manufacture and in the preservation of its superior quality, by careful manipulation.

In these two factors we see the true salvation and the future of Amazonia, and how to attain this end has been one of the principal concerns of this *Review*. Many projects have been proposed.

For the first, reduction of freights, production of things essential to the existence of the *seringueiro* himself, by encouraging him to plant manioc, maize, rice, beans, so as to keep him employed cultivating the land during the time that he cannot devote to extracting rubber.

Reduction of export duties.

Reduction of import duties on the necessities of life, so long as we cannot produce them here, or that the output of them in the south of the country is insufficient, or comes so dear here or with such little difference in cost from the foreign article, surcharged with duties, it is true but nearly always superior.

Rubber plantations in accessible localities and rationally made, in order to obtain better results from the labor, which is known to cost high amongst us.

To the second factor we have periodically called the attention of the planters by means of circulars, and we will not rest in the performance of our task.

For the solution of both problems, we again earnestly solicit the assistance of all our colleagues, and of every one to whom the progress and the future of this region are dear.

It is by this means that we must endeavor to guarantee the results of our rubber production, not by artificial and fantastic expedients. Therein lies the true valorization of our rubber.

RUBBER HUNTERS FIND GOLD.

THE newspapers report that Mr. R. Dorsey Mohun, the American leader of the American-Belgian expedition into the lower Congo region, has intimated the discovery of rich products of gold, tin and copper in the Manyema district. The interests with which Mr. Mohun and his party are concerned include the American Congo Co. and La Société Internationale Forestière et Minière du Congo. [See THE INDIA RUBBER WORLD, January 1, 1907—page 106.] These companies hold the concessions in connection with which the names of Thomas F. Ryan, of New York, and the Guggenheim mining interests of the United States have been mentioned prominently, and allied with which are the Continental Rubber Co. In 1905 King Leopold appointed Mr. Mohun, who had at one time been the United States commercial agent in the Congo Free State, a director in the Société ABIR, and he has had an exceptional opportunity for becoming familiar with conditions in the Congo Free State.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

AKRON rubber manufacturers report no unexpected increase in business during November. Though they report a marked picking-up in the number of orders, it is no more than was looked for as the natural outcome of the end of the presidential campaign, and does not affect the output or number of factory employes. Mr. Elmer C. Shaw, general superintendent of the B. F. Goodrich plant, when interviewed by this correspondent, said that there had been no change worthy of mention either in the number of employes of the plant or the size of the output in several months. The exact number working at the time, he said, was 3,200. He said that for the last year the company has been unable to get enough workers, especially women, and the condition might almost be described as a labor famine.

The reduction in the volume of automobile tire business noted every fall by Akron rubber factories is said by a prominent member of the trade here to have continued several weeks longer than usual this year. He added that indications are that it will soon disappear entirely.

The latest addition to the office of The Diamond Rubber Co. affords 7,000 feet additional floor space. The new apartments are used for the bookkeeping and billing department, thus allowing more space for the sales department in the old offices. About 145 persons are now employed in the entire office.

Armer Carnahan, formerly with the Goodyear Tire and Rubber Co., has been employed as New York city salesman for the Swinehart Clincher Tire and Rubber Co.

Akron rubber companies are placing on their stationery the slogan "Akron, the City of Opportunity," which has been adopted by the newly organized Akron Chamber of Commerce.

The Firestone Tire and Rubber Co. report success with their new non-skid automobile tire recently placed on the market. The tire is original in design. The words "Non-Skid" and "Firestone" are placed alternately in raised letters diagonally across the tread of the tire, forming a broken surface that is claimed to be unusually effective in preventing skidding. S. G. Carkhuff, secretary of the company, is the patentee of the new feature.

The Diamond Rubber Co. received an order in November for a quantity of rubber insulated wire for the United States navy department.

Harry G. Smith, city representative of The Diamond Rubber Co.'s Cleveland branch, resigned on November 30. He leaves the employ of the company with their good will, but has announced no plans for the future.

The Diamond "Grip" tire has been placed on the market since the Vanderbilt Cup races. It is designed to prevent skidding and is especially for racing purposes. Reports from the factory say that consumers are taking well to the new tire and the manufacturers are far behind in their orders. The tire was used on the Locomobile that finished third in the Vanderbilt race. It is characterized by the disk-like projections of the tread.

The organization of the racing department in The Diamond Rubber Co. is another indication of the importance of the rubber tire as a factor in automobile speed contests. The Diamond Company have entered the racing world as extensively as any other rubber company and it was to enable them to take care of racing matters on a large scale that the department was established. Mr. Joe Tracy has been employed as consulting engineer on racing subjects and has been placed at the head of the new department. Mr. Tracy was first an expert gasoline engineer and builder. He acted as general designer for the Locomobile company and attracted attention in the Vanderbilt race several years ago. He also drove in the Grand Prix race in France three years ago. For the last year he has been consulting engineer in matters relating to automobile construction and racing and has an intimate knowledge of these subjects. The new de-

partment will not enter the field until next year. Through its establishment, contestants in large races who use Diamond tires will have the benefit of Mr. Tracy's advice and assistance.

Little interest was taken in the Savannah races by Akron rubber companies. Representatives were not sent and the only ones who are known to have attended from this city were interested only from the viewpoint of automobilists.

Mr. W. J. Slater, advertising manager of the Firestone Tire and Rubber Co., has resigned to re-enter the newspaper business. With H. B. R. Briggs, of the *New York Journal*, and M. H. Lane, of the Michigan Buggy Co., he has purchased the Kalamazoo (Michigan) *Telegram*, and will become its general manager. Mr. Slater will be succeeded in the Firestone office by John F. Singleton, who has held the position before.

Lemon Greenwald, recently proprietor of the Greenwald Rubber Company, has accepted a position with the Firestone Tire and Rubber Co. at the head of the claims adjusting department.

C. W. Harris, formerly of Baltimore, has succeeded Otis Cook as special representative of the Firestone Tire and Rubber Co., with headquarters in Akron.

M. I. Iles, formerly with the Firestone company, has accepted a position as Chicago salesman of the Swinehart Clincher Tire and Rubber Co.

TIRES AND MOTORS.

THE Canadian department of trade and commerce publishes a report by the Canadian trade commissioner at Yokohama, from which we quote: "The import to the Orient of the British Dunlop tires is growing in an astonishing manner year after year. The importation of bicycles into Japan, increased from 19,326 in 1905 to 34,523 in 1907, has created an active demand for rubber tires. The aggregate value of these importations last year represents 1,300,000 yen. The import of rubber tires alone is said to be not less than 250,000 yen [—about \$125,000], in addition to which there are imported rubber tires for automobiles and jinrikisha wheels, and for several other technical purposes."

THE LONDON AUTOMOBILE SHOW.

THE Olympia, London, which recently was the center of so important an interest in the rubber world, was again visited by a great number of members of the rubber trade during the past month, though this time the visitors numbered more manufacturers than representatives of the planting interest. The occasion was the seventh annual International Motor Exhibition held under the auspices of The Society of Motor Manufacturers and Traders, Ltd, from November 13-21, inclusive. This is one of the most important of the great annual automobile shows, having the official recognition of the Automobile Club and for its patrons the King and the Prince of Wales, while the exhibitors include the leading manufacturers of automobiles and accessories, not only in Great Britain but elsewhere, owing to the importance of the English market for these articles, and the absence of any import duties in that market.

As usual at Olympia the tire section was prominent, embracing very complete displays of the leading British manufacturers, and of the foreign makes having representation in that country. The leading continental tire firms had exhibits, and one of importance came from America—that of The B. F. Goodrich Co., of Akron, Ohio, who occupied stand No. 266. On the whole, the tire exhibits were devoid of novel features, due to the progress which has been made in the standardization of tires, especially since the expiration of the Bartlett, Dunlop-Welch and other leading patents. Still, the different makers, as a rule, had new features to show, indicating a continuous effort toward the improvement of their products. The effect was at least to rob the exhibits of monotony, and to give the enterprising young men in the charge of making sales a new basis for their arguments.

New Rubber Goods in the Market.

THE "BASKET BALL" SHOE.

A NEW shoe, introduced for the first time this season, is the "Basket Ball," illustrated on this page. The manufacturers appear to have succeeded in producing a practical and reliable basket ball shoe at a price sufficiently low, quality considered, to interest economical buyers. The upper is of selected heavy canvas, leather reinforced, with a fine quality of soft, pure gum rubber in the flat suction sole.

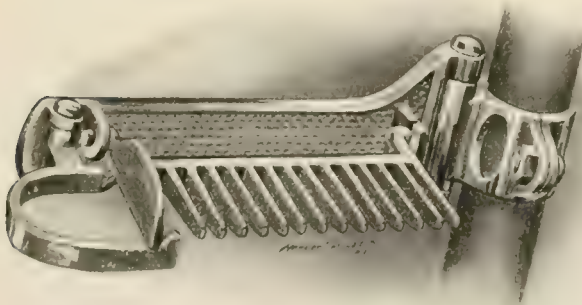


THE "BASKET BALL" SHOE.

This sole will not slip on a polished or waxed floor. The new shoe has been subjected to thorough test, and has an actual playing record of 14 games, which with the commendation of leading players has convinced the makers that it is practical, durable and of exceptional value. [Enterprise Rubber Co., Boston.]

"JIFFY" FIRE HOSE RACK.

THE "Jiffy" fire hose rack, illustrated on this page, is so constructed as to permit a free circulation of air around the hose, keeping it dry and in a reliable condition. It can be operated in a "jiffy," and releases the hose in such form as to be ready for the instant reception of water. The "Jiffy" rack consists of a swinging bracket which supports a hinged rack made in the shape of a comb. The hose is suspended in loops from the teeth of the comb-shaped rack, and the nozzle is stuck down through a loop of metal at the end of the rack. This metal loop is hinged at one end and at the outer end a little lug engages the corner of the rack forming the support upon which it rests



"JIFFY" FIRE HOSE RACK.

when holding the hose. By pulling the nozzle slightly, the metal loop is disengaged from the rack, which drops, letting the loops fall to the floor. These are spread out by the impact as they strike the floor, somewhat in the manner of the unfolding of a fan. Water can be turned on immediately without danger of tangling the hose. In the illustration the rack is shown attached to the standpipe, with the rack up ready for the reception of the hose. ["Jiffy" Fire Hose Rack Co., No. 727 Seventh avenue, New York.]

"CLING-TIGHT" STORM APRON.

THE accompanying illustration, from a photograph of the garment as worn, relates to what is called the "Cling-Tight" storm apron, for the use of automobilists. It is made of water-proof material, with a band of steel to encircle the waist and one to encircle legs above the ankles. These steel bands cling closely to the figure of the wearer, holding the apron snugly to it. It makes a good wet weather apron, and is also adapted for use as a



"CLING-TIGHT" STORM APRON.

cold weather protector. Placed over a lap robe, it holds the robe snugly in place, so that it cannot slip down from the waist. It is readily put on and put off; it "keeps the wind out and comfort in." It has no straps, buckles, or hooks; offers freedom for the hands and feet to operate the levers of a car; and is just as comfortable for a long buggy ride. [Beebe-Elliott Co., Racine, Wisconsin.]

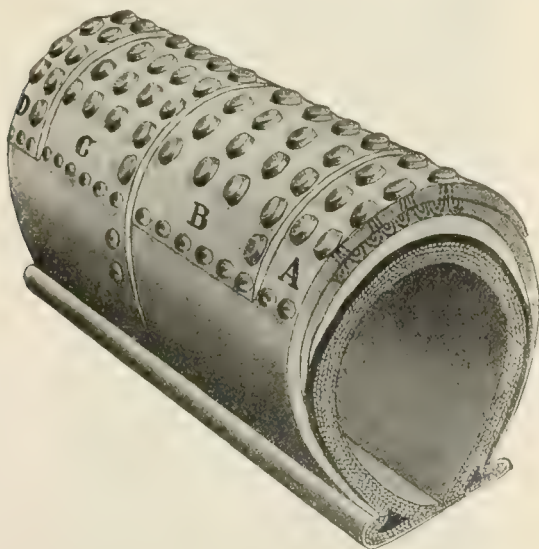
GREEN INNER TUBES FOR TIRES.

INNER tubes for motor tires have in the past been of three colors—red, white, and pure gum, or grey. Of course color itself has nothing whatever to do, as far as we know, with the durability of such goods. The ingredient used, however, in coloring the tube may be one that gives a more valuable and lasting product. For ten years past or more it has been patent that German chemists have accomplished more in the production of colors for industrial purposes than all the other chemists in the world put together. The bulk of these colors were not used in rubber manufacture, but same were for rubber work, and produced results hitherto unknown. When, therefore, the great Continental Company, of Hanover, Germany, produce a green motor tube and claim that it not only retains its elasticity, but under tests shows that it will stand a greater amount of friction than existing tubes, it points to a distinct advance in the

manufacture of these goods. What particular green they use in their compounding is not known, and probably will not transpire in a moment. They would seem, however, to be first in the field, and if the tube is as good as they predict, the new color will act as an additional trade mark to the "Continental" goods.

A NEW TIRE PROTECTIVE TREAD.

THE distinctive feature of the tire called "Ke-Pa-Go-In" is a tread of specially tanned leather, studded with cold-drawn rivets of steel. The rubber carcass used in this tire is of standard construction, but the leather tread differs somewhat from any before offered to the trade. The manufacturers state: "We use rubber in our construction where it is needed only, and for its adhesive qualities. We do not use it where it will be taxed



"KE-PA-GO-IN" PUNCTURE PROOF TIRES.

beyond reasonable limits. We use canvas and leather for the parts which are exposed to wear and requiring great strength." The tread is put on in sections, indicated by the initials A, B, C, D in the cut, each overlapping another so far as to give two thicknesses of leather throughout the length of the tire. Any section of this tread may be renewed separately when necessity arises. [Beebe-Elliott Co., Racine, Wisconsin.]

"EVERFLOAT" LIFE PRESERVER.

THE illustration herewith gives a good idea of the appearance and manner of wearing a new article described as the "Ever-

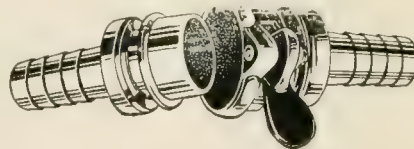


"EVERFLOAT" LIFE PRESERVER.

float" life preserver, and which met with an extensive demand from bathers at Atlantic Coast resorts during the past summer. [Everfloat Life Preserver Co., No. 304 Hudson street, New York.]

THE "TIME SAVING" HOSE COUPLER.

THE advantageous feature claimed for this coupler is that instead of requiring to be put together in a certain way, the parts fit with equal effectiveness, no matter how brought together. By pressing on a cam the parts are joined tightly on a recessed



"TIME SAVING" HOSE COUPLER.

seated washer. There is practically no end to its life because the cam rarely becomes fastened a second time in the same place, having a ring its full diameter upon which to work at any point. Connections are as simple as opening and shutting a door. These couplers are made for fire and garden hose, air, steam, and so on. [A. W. Findlay Co., Twenty-third and Market streets, Philadelphia.]

THE COTTON GOODS MARKET.

THE cotton goods market is exceedingly firm at this time, with an advancing tendency, the same general conditions characterizing it, as were reflected in our report last month. A reliable source stated at the end of the month: "Doubts of the stability of values in the cotton goods market for the long future were dissipated as the week closed. The moderately profitable level that was sought by sellers for future business has been reached and large buyers have operated in quantities sufficient to guarantee the measure of confidence that conservative men were hoping for. The Government report for the volume of cotton ginned to November 14 verified the conditions that spinners who buy cotton to use have been representing to selling agents, and whatever may be the future course of things it is not felt that it will be harmful to the values of goods."

Information from dependable sources indicates a materially larger consumption of cotton fabrics in every branch of the mechanical and tire trades, Sea Island having the strong call for tire purposes. Rubber manufacturers, or at least many of them, were somewhat conservative in placing their contracts, and if the expected demand for their product materializes, most of them will have to reënter the market. There is a large crop of the exceptional qualities, and attractive current prices have induced a steady purchase by buyers outside the trade, and it now seems improbable that the market will lose any of its strength. Present indications are that home mills will consume more cotton than for many years past, in addition to which export business is strong and increasing. The very superior quality of this season's crop should exert a favorable influence on the various lines of rubber manufacture using cotton fabrics, and should for this reason prove of special interest to manufacturers of tires.

The stock of various weights of duck on hand at the mills is limited, and the majority of the mechanical rubber manufacturers are placing large requisitions in anticipation of future needs. While there is not likely to be any scarcity of duck during the coming season, on account of increased production, it seems probable at this time that the demand for the coming year will consume the supply. The manufacturers of stitched canvas belting report a greatly increased demand.

THE *Argosy*, published at Georgetown, said in a recent issue: "For those interested in rubber cultivation a visit to the Georgetown museum is particularly worth while at present, for the department of lands and mines is exhibiting a series of rubber samples and their improved tapping knives. A quantity of literature bearing on the subject is also displayed."

The Rubber Planting Interest.

YIELD OF "CASTILLOA ELASTICA."

A RECENT bulletin issued by Hacienda del Corte, Inc. (Milwaukee, Wisconsin), gives the following result of experimental tapping of cultivated *Castilloa* rubber on their estate in Oaxaca, Mexico. Three groups, each of 16 trees, were tapped twice—on July 24 and August 24, 1908—three different methods of tapping being employed, and the average weight of rubber per tree is stated to have been:

First group: Spiral tapping.....	4.69 ounces
Second group: Herring bone tapping.....	4.42 "
Third group: V-cut tapping.....	4.33 "

The age of these trees is not stated, but from reference to the estate—formerly the Isthmus Plantation Association of Mexico—which have appeared in THE INDIA RUBBER WORLD, it seems that the initial planting was in 1900, and the trees experimented on are probably 8 years old.

EL PALMAR ESTATES—A NEW MEXICAN COMPANY.

A COMPANY has been formed to take over the control of "El Palmar" plantation in the State of Vera Cruz, Mexico, on which rubber culture was begun ten years ago, in connection with sugar and other products. The estate embraces 4,682 acres, part of which has been planted already to rubber (*Castilloa elastica*), and the purpose of the new management is to make rubber planting the chief interest in future. Reference has been made already to the rubber product of "El Palmar," in which have been interested the important Mexican firm, Lions Hermanos y Cia (Lions Brothers & Co.), of Pueblo. The new administration is in the

hands of El Palmar Estates, incorporated March 28, 1908, under the laws of New York, with \$900,000 capital. The officers are Walter J. Raymer (Chicago), president; Wallace T. Jones (New York), vice-president; John C. Sanders (Cleveland, Ohio), treasurer, and George A. Tailer (New York), secretary. The financial agent is John A. Barnes, Monolith building, New York. The further development of the estates is in the hands of the Tropical Products Co., incorporated by identical interests under the laws of New York, March 28, 1908. The shares of El Palmar Estates will be placed in trust with the Windsor Trust Co. (New York) until the development now in prospect has been completed.

RUBBER SHOW AT KUALA LUMPUR.

At the fifth joint annual Agri-Horticultural Show of the Malay peninsula, held this year in August at Kuala Lumpur, the number of entries of plantation rubber was smaller than last year, but on the whole the display made was varied and interesting. Twenty-one awards were made for exhibits of rubber. The Governor's cup, for the best sample of rubber in the show, was awarded to Jebong state, in Perak, and the Sultan's cup to Kamuning estate. Six awards were made for gutta-percha, 3 for oil from Para rubber seed, 2 for rubber tapping tools, and 2 for machinery in connection with the preparation of rubber.

RUBBER ON CEYLON RAILWAYS.

THE official railway returns of Ceylon are beginning to mention rubber specifically as an article of traffic and the record runs: 12 tons in 1905; 13 tons in 1906; and 112 tons in 1907. The



VIEW ON ESTATE OF ORIZABA RUBBER PLANTATION CO. IN MEXICO.
[Planted *Castilloa elastica*, three years old, averaging 17 inches in circumference.]

revenue from transporting rubber is not large yet, the figure for 1907 standing at 1,201 rupees [= \$389.64], whereas the railways earned 1,198,640 rupees for transporting tea. Evidently, however, the railways expect to have more rubber business in the near future, for the *Ceylon Observer* mentions that the railway department is constructing a special rubber store at Colombo.

AN ITEM FROM BURMA.

THE Shwegyin rubber estate is reported to have 1,540 acres planted to *Hevea* rubber, one to four years old. The *Ceylon Observer* quotes the manager as stating that 1¼ pounds of dry rubber had been obtained from three-year-old trees. The plantation is owned by the Mergui Rubber Co., Limited. There are three other plantations of *Hevea* rubber in the country, including the government plantation, mentioned in THE INDIA RUBBER WORLD [April 1, 1902—page 210].

The Editor's Book Table.

CONDUCTORS FOR ELECTRICAL DISTRIBUTION; THEIR MATERIALS AND DISTRIBUTION; the Calculation of Circuits, Pole Line Construction, Underground Workings, and Other Uses. By F. A. C. Perrine, A. M., D. SC. Second edition. New York: D. Van Nostrand Co. 1907. [Cloth, 8vo. Pp. vii+287+tables in pocket. Price, \$3.50 net.]

THE development of the applications of electricity, and, what is especially to our point, of the uses of insulated wire, has been too rapid to permit most of those who have been active in this field to stop to record the results of their work other than in fragmentary shape in the current technical press and in the transactions of scientific societies. When, therefore, so competent a hand as that of our author has paused to outline a comprehensive view up to date of the subject covered by the title page of his book, it has been an event in scientific progress not lightly to be considered.

The volume before us is the second (and revised) edition of a work issued five years earlier. It seems to be worth while here to quote from the latest preface the author's conclusion that "comparatively little of the first edition has become obsolete, and that none of the principles of practice therein have lost their force; therefore, the revision of the book has been more in the nature of amplification and addition." We are quite willing to agree with the author in this respect, and in doing so to point out the thorough and painstaking character of his work in the first as well as in the second edition, thus avoiding any necessity for quickly revising conclusions.

There are chapters on conductor materials, alloyed conductors, the manufacture of wire, wire furnishings, wire insulation, cables, calculation of circuits, Kelvin's law of economy in conductors, multiple arc distribution, alternating current calculation, overhead lines, the pole line, line insulators, and underground conductors.

Dr. Perrine's book is succinctly written, fairly bristling on every page with points that are too plain to be misunderstood. The chapter on "Wire Finishing," for example, is most suggestive to the rubber works manager who, turning his attention for the first time to the insulated wire branch, may not have appreciated of his own accord the importance of the treatment and condition of the conductor material. The extensive chapter on "Wire Insulation" deals not only with the rubber and rubber compounds employed, but also the various mechanical processes and appliances at the command of the manufacturer in this branch. Here, particularly, the use of illustrations is very effective.

We shall not here deal with the distinctively technical features of this work, further than to commend the whole to the electrical engineer, for whose benefit the book is primarily designed, though it is none the less worthy the attention of whoever is engaged in the production of appliances for electrical distribution. The author has kept in mind the saving clause, as

RUBBER STUDY AT AMANI.

It is assumed that the average reader is not familiar with the location of Amani, especially since there are many excellent collections of maps which do not contain this name. As most generally printed, however—in connection with Hafen Tanga—the suggestion is natural that Amani is in East Africa, within the German sphere of influence; hence, of course, there is scientific work in progress there, not omitting experiments in the cultivation of all the native plants that give promise. From this remote region, therefore, comes *Der Pflanzer*, devoted to tropical agriculture, and issued from the Biologisch Landwirtschaftlichen Institut Amani, and maintaining a character that would do credit to a periodical much longer established and emanating from Berlin or Vienna. The subject of rubber culture is by no means the subject least prominently treated in the monthly issues of *Der Pflanzer*.

expressed in his first preface—the difficulty of the "task of writing up to the present condition of a rapidly moving art."

INDISCHE CULTUUR ALMANAK (MET SUPPLEMENT) VOOR, 1909. Samengesteld A. H. Berkout en M. Greshoff, 23 e Jaargang, Amsterdam: J. H. De Bussy, 1908. [Cloth, 32mo, pp. 368+vi. Price, 3 florins.]

THE comprehensiveness and variety of the contents of this yearly handbook of Dutch planting interests in the East Indies indicate more thoroughly than does any other single publication the vast importance of these interests. There are statistics of sugar, coffee, tobacco, cacao, tea, spices, rice, quinine, kapok, coconuts, indigo, tapioca and other products. Attention is given also to india-rubber and gutta-percha, though the production of these to date under cultivation is as yet only beginning. There are tables of weights, measures, temperature, prices, etc., of mutual interest to estates managers in Sumatra and Java and investors at home in the plantation enterprises. Professor Berkhout, one of the compilers, was the former conservator of forests in the Dutch East Indies, and Dr. Greshoff, the other, is director of the Colonial Museum at Haarlem. The supplement referred to (48 pages) is a list of books and periodicals relating to planting interests.

COTTON MOVEMENT AND FLUCTUATIONS. THIRTY-FIFTH annual edition. New York: Latham, Alexander & Co., No. 16 Wall street. [Cloth, 8 vo. Pp. 193+plates.]

THIS is perhaps the fullest and most accurate yearly summary of cotton trade conditions, in America and abroad, available in any form. Its value is enhanced by the fact that figures for a long range of years are presented for comparison with the latest compilations. In their annual letter, dated September 20, 1908, the compilers, who are cotton commission merchants, predict: "As business of all kinds in all departments of trade is improving, it can confidently be expected that the consumption of cotton will largely increase in the course of the year, and satisfactory business and prices will prevail."

IN CURRENT PERIODICALS.

FEASIBILITY of Commercial Growing of Rubber Maintained by Professor Olsson-Seffer=*Boletín de la Asociación Financiera Internacional*, Mexico. IV:1 (Aug. '08). Pp. 16-17.

Der Gummireichtum Südamerikas. By O. Sperber.=*Süd- und Mittel-Amerika*, Berlin I-16 (Aug. 31, '08). Pp. 361-366.

La Situation du Guayule. By O. Labroy. [Points to the inevitable decline of the supply of this Mexican rubber plant.]=*Journal d'Agriculture Tropicale*, Paris. VIII-86 (Aug. 31, '08). Pp. 232-234.

Die Gewinnung des Parakautschuks am Amazonas und Seine Zukunft. By D. Sandmann. [From a report on German imperial colonial office.]=*Der Tropenpflanzer*, Berlin. XII-9 (Sept. '08). Pp. 407-433.

THE amount of "gutta-percha and rubber" collected from public lands in the Philippines and on which the government collected charges during the year ended June 30, 1907, is stated in the annual report of the director of forestry at 942 metric quintals [=207,673 pounds.]

News of the American Rubber Trade.

JOHN J. WATSON, PRESIDENT.

At a meeting of directors of the Rubber Goods Manufacturing Co. (New York, November 11), John J. Watson, Jr., was elected president, to fill the vacancy which had existed since the death of Charles H. Dale on July 18 last, after having held the office for more than five years. On the same date Mr. Watson was elected president of the General Rubber Co., in place of Colonel Samuel P. Colt, who resigned a few months ago in order to be able to devote more time to the improvement of his health.

Mr. Watson, who is a native of Rhode Island, became employed in 1896 by the Industrial Trust Co., of Providence, then under the presidency of Colonel Samuel P. Colt. Four years later he was elected treasurer of the Joseph Banigan Rubber Co., continuing for awhile his connection with the Trust company. Later he was purchasing agent of the Banigan company as well. In October, 1901, he was called to the general offices of the United States Rubber Co., at New York, being elected second assistant treasurer. In May, 1902, he was elected assistant treasurer; in 1904 he was elected treasurer, and in May, 1905, and annually since elected treasurer and director.

The General Rubber Co. was incorporated in May, 1904, for the purpose of supplying crude rubber to the United States Rubber Co., and later came to sustain a similar relation to the Rubber Goods Manufacturing Co. also. Colonel Colt was president from the beginning until his recent retirement, and Mr. Watson has been the treasurer. In April, 1906, on the taking effect of the merger of the Rubber Goods Manufacturing Co. with the United States Co., Mr. Watson was elected a director and treasurer of the former, and has been re-elected to these position annually since. No intimation has been given of which, if any, of the various offices held by Mr. Watson in the past he may relinquish in view of becoming president of two of the corporations referred to.

Before coming to New York, Mr. Watson for three years represented the town of Jamestown in the Rhode Island legislature and was a member of the state board of charities and corrections.

WESTERN ELECTRIC CO. CHANGES.

At a meeting of the directors of the Western Electric Co., in Chicago, on October 30, Mr. Enos M. Barton retired from the presidency, after a long term of service, and was elected chairman of the board. He was succeeded as president by the election of H. B. Taylor, A. B., whose connection with the company dates back 28 years. Mr. Taylor will continue to reside in New York, where he is a member of the Chamber of Commerce and of several social organizations, and a director in electrical and other corporations. Some of the engineering and other administrative work of the Western Electric Co. will be done henceforth in New York. Mr. Taylor is succeeded as vice-president by H. A. Halligan, formerly secretary, who in turn is succeeded by George C. Pratt. Two additional vice-presidents were elected—F. R. Welles, who has charge of the company's foreign business, and William P. Sidley, who retains

title of general counsel. The Western Electric Co., one of the largest electrical manufacturing concerns in existence, are large customers of the rubber industry. They are expanding of late and, it is thought in some some quarters, may at an early date offer some of the \$15,000,000 5 per cent. bond issue authorized by the shareholders a year ago. The company recently supplied new equipment for the main telephone exchange in Paris, after the destruction of the old by fire.

WINDING UP OF THE SEWARD RUBBER CO.

The Superior court for Hartford county, Connecticut, accepted on November 7 the final report of L. C. Ryce, receiver of the Seward Rubber Co. (Berlin, Connecticut), and passed an order allowing \$2,750 for his own and \$750 for his attorney's services, and directing the payment of a final dividend of 4.6 per cent. to the creditors, which, with the 50 per cent. paid in July, will give them 54.6 per cent. The receiver was appointed February 18, 1908. [See THE INDIA RUBBER WORLD—page 199.] With the report were letters from creditors whose claims aggregated 66 per cent. of the whole, stating that the dividend already received was larger than they had expected the estate could pay, and that they got it sooner than they expected.

TRADE NEWS NOTES.

The Flexible Rubber Goods Co. (Winsted, Connecticut), on November 6, 1908, filed with the secretary of state at Hartford a certificate of increase of capital stock from \$10,000 to \$35,000. It is understood that the company are planning to make some important extensions to their plant and business.

The Massachusetts Chemical Co. (Walpole, Massachusetts), have established new and larger quarters for their Boston office at No. 185 Summer street, opposite the South station, across the street from the old location at No. 170 Summer street. Mr. E. W. Furbush, general manager, usually spends his mornings at the factory and afternoons at the Boston office. Mr. Louis O. Duclos, the general sales manager, will make his headquarters at the new offices.

Mr. G. Edward Habich, india-rubber and gutta-percha broker, in Boston, has removed his offices from No. 170 Summer to No. 185 Summer street; telephone 1706 Oxford.

The Bay State Insulated Wire and Cable Co. (Hyde Park, Massachusetts), have made a change in their representation at Chicago, where their agent now is Richard Wick, No. 356 Dearborn street.

The Archer Rubber Co. (Millford, Massachusetts), are reported to be much cramped for room in their present location, and to have informed the local board of trade of the receipt of inducements from other towns for the removal of their plant.

Mr. H. C. Miller, formerly general representative of The B. F. Goodrich Co. (Akron, Ohio), has been appointed manager of the automobile tire department for The B. F. Goodrich Co. of New York, with headquarters in New York city.

Frazar & Sale, Limited, import and export merchants (Nos. 63-65 Wall street, New York), announce the appointment of Mr. Richard F. Warner as manager of their New York office, taking charge from November 16.



JOHN JAY WATSON, JR.

BOSTON RUBBER HOSE AND RUBBER CO.

THE Boston Woven Hose and Rubber Co. have filed with the secretary of state of Massachusetts a statement of their financial condition, as required by the statutes, for their business year ending August 31, 1908, the details of which are reproduced below, in comparison with which are given here also the figures for the two years preceding:

YEAR ENDING AUGUST 31, 1906.

ASSETS.		
Cash	\$188,128.74	
Cash advanced for goods not yet received	28,419.01	
Accounts receivable	499,996.32	
Merchandise, including raw material	501,582.11	
Machinery and tools	244,848.00	
Land and buildings	205,150.00	
Furniture and patents	2.00	\$1,668,126.18
LIABILITIES.		
Capital stock	\$1,200,000.00	
Loans	None	
Accounts payable	10,604.72	
Guarantee account and profit and loss	457,521.46	\$1,668,126.18

YEAR ENDING AUGUST 31, 1907.

ASSETS.		
Patents	\$1.00	
Office furniture	1.00	
Land and buildings, September 1, 1906	205,150.00	
Added during year:		
Cambridge land	\$136,102.70	
Cambridge buildings	30,140.80	
Plymouth	5,529.00	
New hose building	14,075.40	
New foundry building	8,777.40	194,625.30
Machinery and tools, September 1, 1906		244,848.00
Added during year:		
Machinery, Cambridge	\$93,649.48	
Machinery, Plymouth	22,183.33	115,832.81
Cash		68,982.22
Accounts receivable		540,443.85
Inventory (60 per cent. raw material)		782,516.94
		\$2,152,401.12
LIABILITIES.		
Capital stock, preferred	\$750,000.00	
Capital stock, common	450,000.00	
Loans	360,000.00	
Accounts payable	22,865.20	
Surplus (for common stock)	569,535.92	
		\$2,152,401.12
Net sales for year ending August 31, 1907		\$2,744,705.68
Net earnings for year ending August 31, 1907		200,961.29
Quick assets		1,391,943.01

YEAR ENDING AUGUST 31, 1908.

ASSETS.		
Patents	\$1.00	
Office furniture	1.00	
Land and buildings, September 1, 1907	399,775.30	
Added during year:		
To complete hose buildings	\$95,252.14	
To complete shipping and storage building	171,045.41	
To complete foundry	17,290.43	
Plymouth	51,273.80	
New construction	51,162.63	386,024.41
Amount charged off to date	93,229.18	
Machinery and tools, September 1, 1907		360,680.81
Added during year:		
Machinery, Cambridge	\$144,442.25	
Machinery, Plymouth	3,177.72	147,619.97
Amount charged off to date	\$317,288.26	
Cash		77,984.35
Accounts receivable		467,564.05
Inventory		674,113.69
		\$2,513,764.58
LIABILITIES.		
Capital stock, preferred	\$750,000.00	
Capital stock, common	450,000.00	
Loans	695,000.00	
Accounts payable	43,669.33	
Surplus	575,095.25	
		\$2,513,764.58

SALE OF A RUBBER CEMENT PLANT.

GEORGE C. BRICE, who in May last was made trustee in bankruptcy of the National Cement and Rubber Manufacturing Co. (Toledo, Ohio), on November 11 offered the property of the company for sale. The purchasers were the Continental Trust and Savings Bank Co., of Toledo, who now hold all the real estate and machinery included, for re-sale. The business referred to was an outgrowth of the manufacture of tire repair outfits and the like by Arlington U. Betts & Co., of Toledo, which was conducted for a number of years, being incorporated later successively as the Red Cross Rubber Co., the Red Cross Rubber and Cement Co., J. E. Bancroft & Co., and in 1897, the

National Cement and Rubber Manufacturing Co. It is interesting to note that for more than 10 years three of the five of the corporations of the National company have continued with the business in an official capacity—Dean V. R. Manley, James E. Bancroft and Edward P. Hubbell. Mr. Betts, by the way, joined the United States army, went to the Philippines, and was last heard from by his friends in America as governor of the province of Albay, out there.

NEW YORK BRANCH OF THE DIAMOND COMPANY.

THE Diamond Rubber Co. (Akron, Ohio) have closed their downtown branch in New York, long maintained at 78 Reade street, and devoted latterly to their mechanical goods products, and consolidated their business at their newer uptown branch, 1876 Broadway, opened originally for their tire trade alone. The *personnel* of their New York branch now consists of Har-



THE DIAMOND RUBBER Co.'s NEW YORK BRANCH.

vey J. Woodard, general manager; T. S. Lindsey, office manager; J. J. Jordan, sales manager; W. R. Bliss, manager mechanical department; E. B. Williams, manager solid tire department and truck department, and F. A. Lidle, manager hard rubber department. The business of the company in New York is conducted by the Diamond Rubber Co. of New York, a separate corporation which controls also the business of the Boston branch.

TRADE NEWS NOTES.

THE directors of the Boston Woven Hose and Rubber Co. have declared a semi-annual dividend of \$3 per share on the preferred stock, payable December 15, 1908, to stockholders of record December 5, 1908.

The Manufacturers' Rubber Co. (Philadelphia) have declared the regularly quarterly dividend of 1¼ per cent. on the preferred shares, payable on December 1.

The Consumers' Rubber Co., an important jobbing firm of Cleveland, Ohio, were awarded recently a contract for 5,000 feet of fire hose for the fire department of that city.

The Boston Woven Hose and Rubber Co. are rebuilding the brick structure, a part of their reclaiming plant at Chiltonville, Massachusetts, the undermining of which during a recent storm was mentioned in the last INDIA RUBBER WORLD.

The coupons due regularly on the first mortgage 6 per cent. bonds of the Safety Insulated Wire and Cable Co. (New York) were payable on and after November 2 at the office of the Knickerbocker Trust Co.

The United States treasury department authorizes a drawback on the duties on imported spring steel used in rubber and steel truss springs made by the Vulcanized Rubber Co. (New York), equal to the amount of duty paid on such steel, less the legal deduction of 1 per cent., applicable, of course, where the trusses referred to are imported.

An interesting feature of the recent celebration of the 150th anniversary of Pittsburg was an industrial and commercial parade, one of the "floats" in which represented the wholesale shoe firm of Wagner Brothers, large distributors of the Wales-Goodyear Shoe Co.'s "Bear Brand" of rubbers. The float embraced a life-sized representation of a polar bear, which, since the celebration, has done advertising duty in Wagner Brothers' window.

MR. HUNTER PRESIDENT OF THE "PEERLESS."

At a meeting of the directors of the Peerless Rubber Manufacturing Co. (New York, November 19) Mr. Charles A. Hunter was elected president of the company, succeeding the late Mr. Charles H. Dale. Mr. Hunter had previously been vice president of the company, and largely in charge of its factory operation since Mr. Dale began giving so large a share of his attention to the affairs of the Rubber Goods Manufacturing Co. Mr. Hunter is also one of the vice presidents of the Rubber Goods company, the New York Belting and Packing Co., Limited, and the Mechanical Rubber Co. The office of president of the last two companies has been vacant since the death of Mr. Dale.

* * *

MR. WILLIAM HILLMAN has accepted the position of general manager of the Peerless Rubber Manufacturing Co., with headquarters at the main offices of the company, No. 16 Warren street, New York, to take effect from December 1. Mr. Hillman has been connected for 22 years with the Revere Rubber Co. (Boston), latterly as manager of their New York branch.

NEW INCORPORATIONS.

WRIGHT & DITSON, October 29, 1908, under the laws of New York state; capital \$50,000. Incorporators: George Wright and John F. Morrill, 344 Washington street, Boston, and Francis G. Coates, 132 Nassau street, New York. The new corporation will cover the business in New York of the long-established sporting goods house under the same name in Boston, the stock of which includes so many articles into which rubber goods enter.

The Mexican Plantation Association, Inc., November 5, 1908, under the laws of Delaware; capital authorized, \$1,800,000. Incorporators: F. M. Shive, S. E. Roberson and Harry W. Davis, all of Wilmington, Del.

The Mexican Plantation and Colonization Co., November 6, 1908, under the laws of Delaware; capital authorized, \$200,000. Incorporators: William I. N. Lofland, William F. P. Lofland and Samuel C. Ware, all of Dover, Del.

Rubber-Bound Brush Co., November 19, 1908, under the laws of New Jersey; capital, \$10,000. Incorporators: Ernest B. Wright and George E. Goodman, New York city; and Herbert V. Hardman, of Belleville, N. J., the latter having been sometime connected with the Hardman Rubber Co., the inventor of a hard rubber handled brush which the new company intend to exploit.

Bickford & Francis Belting Co., November 14, 1908, under the laws of New York State; capital, \$100,000. Incorporators: R. Kenneth Bickford, W. Morse Wilson and Samuel H. Pooley. Location of business, Buffalo, N. Y.

The Lightning Hose Co., November 12, 1908, under the laws of Massachusetts; authorized capital, \$200,000. Incorporators: Walter E. Fisher and Edwin C. Fisher, Winchester, Mass., and Sumner A. Gould, Woburn, Mass.

TRADE NEWS NOTES.

THE manufacture of the Bailey "Won't Slip" tire, tread, under license, has been taken on by the North British Rubber Co., Limited (Edinburgh, Scotland); the Hannoversche Gummikamm-Compagnie Altiengesellschaft (Hannover-Limmer); and the Consolidated Rubber Tire Co. (New York), in addition to the already long list of licensees.

The American Hard Rubber Co. from time to time put on their honor roll the names of employes as they complete the fiftieth year of employment at their factory at College Point (New York), which was established in 1854 as the India Rubber Comb Co. It is probable that no other rubber factory in the United States has an equal number of employes so long in continuous service. The company referred to make a substantial present to those reaching the fifty-year limit, besides continuing them on the pay-roll if this is desired by the employe.

UNITED STATES RUBBER CO.'S SHARES.

TRANSACTIONS on the New York Stock Exchange for four weeks ending November 21:

COMMON STOCK.

Week October 31	Sales 1,400 shares	High 34	Low 32 $\frac{3}{4}$
Week November 7	Sales 6,850 shares	High 30 $\frac{1}{4}$	Low 32 $\frac{1}{4}$
Week November 14	Sales 7,000 shares	High 37 $\frac{1}{4}$	Low 35 $\frac{1}{2}$
Week November 21	Sales 2,800 shares	High 30	Low 34

For the year—High, 37 $\frac{1}{4}$, Aug. 7; Low, 17 $\frac{1}{2}$, Feb. 26.
Last year—High, 52 $\frac{1}{2}$; Low, 13 $\frac{1}{2}$.

FIRST PREFERRED STOCK.

Week October 31	Sales 1,113 shares	High 100 $\frac{1}{2}$	Low 99
Week November 7	Sales 3,719 shares	High 104 $\frac{1}{2}$	Low 99 $\frac{1}{2}$
Week November 14	Sales 3,760 shares	High 100	Low 104
Week November 21	Sales 800 shares	High 105	Low 102

For the year—High, 106, Nov. 10; Low, 70, Feb. 10.
Last year—High, 109 $\frac{7}{8}$; Low, 61 $\frac{1}{4}$.

SECOND PREFERRED STOCK.

Week October 31	Sales 25 shares	High 67	Low 66 $\frac{1}{2}$
Week November 7	Sales 1,300 shares	High 75	Low 70
Week November 14	Sales 400 shares	High 75	Low 75
Week November 21	Sales 300 shares	High 74 $\frac{1}{2}$	Low 74

For the year—High, 75, Nov. 6; Low, 42, Feb. 21.
Last year—High, 78 $\frac{1}{4}$; Low, 39.

At the offices of the United States Rubber Co. (New York, November 23) it was learned that cable information had been received from Paris, to the effect that the French government had granted the application, which was made last summer, for the official introduction into France of bearer certificates representing 50,000 shares of first preferred stock of the rubber company. It appears that the French public are accustomed to the use of certificates in small denominations in favor of the bearer, and that in dealing in France in foreign securities it has been found desirable to conform to this custom by an arrangement under which the certificates of stock are deposited with a trust company, which in turn issues against such stock deposit bearer certificates for circulation in France. The text of these certificates is in French and English. Messrs. Dupont & Furlaud, bankers in Paris, have arranged to deposit from time to time with the Bankers' Trust Co., in New York, certificates for first preferred stock of the United States Rubber Co., against which the Bankers' Trust will issue bearer certificates up to a total of 50,000 shares. It is these bearer certificates which have now been introduced into the French market. Speaking of the French bankers, Mr. Maurice Leon, of New York, who acted as their counsel in connection with this transaction, stated: "This is the first American industrial stock to be introduced in this manner on the French market, and this move should be of important advantage to the United States Rubber Co. in broadening the market for their securities."

TRADE NEWS NOTES.

THE Continental Caoutchouc Co. (New York) offered \$4,000 in cash prizes for the *grand prix* race at Savannah, including \$2,000 for the first car, \$1,250 for the second car and \$750 car finishing, if equipped with "Continental" tires. The company offered also \$500 in cash prizes to be distributed between second and third cars winning, if equipped with "Continentials."

The Michelin Tire Co. (Milltown, New Jersey) offered \$4,000 in cash prizes to the winning drivers in the *grand prix* race at Savannah—\$2,000 for the first, \$1,000 to the second \$500 to the third, \$300 to the fourth and \$200 to the fifth—if equipped with Michelin tires. Also \$1,000 cash to be distributed to the drivers of the first three winning cars if shod with Michelin tires.

Mr. C. H. Spotts, formerly manager of the paint department, and Mr. Walter Ferris, assistant, at the general offices of the Joseph Dixon Crucible Co. (Jersey City, New Jersey), are now associated with The Protectus Co., paint makers—Mr. Spotts as secretary and Mr. Ferris as New York manager—Hudson Terminal building, No. 30 Church street, New York.

NEW STORE IN THE CROCKER SYNDICATE.

THE Lynn Rubber Co., a new corporation under the laws of Massachusetts, have opened a wholesale and retail rubber goods store at Lynn, in connection with the already extensive line of stores under the management of Isaac Crocker, of Providence, Rhode Island. Martin M. Fitzgerald is president and manager; Isaac Crocker, treasurer, and J. A. Jewell, secretary. The formal opening of the Lynn store, at No. 320 Union street, occurred on the afternoon and evening of November 21, at which time an orchestra was engaged. There was a large attendance of visitors, and not a little business was done. Mr. Crocker expects to see this become one of the best stores with which he is connected.

"RUBBERTEX" COMPANY CHANGES.

THE Rubbertex Cloth and Paper Co. have filed with the secretary of state of Indiana a certificate of increase of capital stock from \$40,000 to \$100,000. It is understood that the increased capital has been secured in Chicago, to which city the general offices have been removed—to No. 166 Michigan avenue. The factories remain at Logansport, Indiana. The officers of the corporation now are Francis G. Porter, president and general manager; Frank Baacker, first vice president; William B. Walter, second vice president and manager of sales; James P. Walker, secretary; T. J. Hyman, treasurer; Lou A. Bond, inventor and patentee of the "Rubbertex" materials, consulting expert.

PERSONAL MENTION.

MR. ELSTON E. WADBROOK, of Poel & Arnold (Boston and New York), has been elected president of the Victorian Club, the leading British club of New England. The club holds monthly dinners at which distinguished visitors to the United States are often guests. At a recent dinner, for example, W. F. Hirst, editor of the London *Economist*, spoke on the tariff and political economy of the United States and Great Britain. Among other speakers was the new president of the club, Mr. Wadbrook.

Mr. Henry C. Pearson, editor of THE INDIA RUBBER WORLD, is announced to deliver a lecture before the Wisconsin National History Society, at Milwaukee, on the evening of December 10.

Mr. James A. Swinehart, president of the Swinehart Tire and

Rubber Co. (Akron, Ohio), has secured 22 patents on rubber tires, including the "sidewire" tire now in such general use.

Mr. James Tinto, managing director of the Irwell and Eastern Rubber Co., of Manchester, England, is now a visitor to the United States. He was president during the year 1907 of the India-Rubber Manufacturing Association, of which he has been an active member since its organization.

Mr. W. R. Gorham, son of W. J. Gorham, head of the Gorham company, was married recently in Oakland to Miss Genevieve Johnson, of Alameda. Mr. Gorham is manager of the Gorham Engineering Works, in Alameda.

NEW "STAMFORD SUPPLIES" FACTORY.

THE Stamford Rubber Supply Co. have, within a few weeks past begun operations in their new plant at Stamford, Connecticut. This concern was organized in the fall of 1900, at that time introducing to the trade a line of rubber substitutes that has become well known in this and other countries as the "Stamford substitutes." Last year the company's business had grown to such volume that the original quarters became inadequate, and it was decided to build a plant that would meet the constantly increasing demands for its standard products. For this purpose a site on the East branch of the Stamford harbor was secured late in the year and building operations begun. The factory is constructed throughout of reinforced concrete, with block curtain walls, and consists of a main building of two stories, a wing of three stories, and an attached boiler house. A wharf extends from the front of the main building to the harbor line, where all water freight is received and forwarded, the daily freight steamer to New York touching at this point. The plant is equipped with machinery especially designed for the manufacture of rubber substitutes of the various kinds, with the greatest possible economy of labor and expense. One Corliss engine of 100 HP. and one engine of smaller rating supply the power, and steam is generated by a boiler of 150 HP. capacity. The officers of the company are as follows: F. R. Gillespie, New York city, president; R. H. Gillespie, Stamford, vice president; W. F. Gillespie, treasurer and general manager.



NEW FACTORY OF THE STAMFORD RUBBER SUPPLY CO.

Review of the Crude Rubber Market.

THE past month has been one of marked changes in the price situation, which at the moment of going to press is best described as unsettled. There was a gradual advance in prices of nearly all grades until near the end of the month, when fine Islands new was quoted as high as 123@125 and fine Upriver up to 130 per pound, and an element of firmness seemed to prevail. During the closing days of November, however, a decline was noted, and the figures given on this page may be described as representing quotations largely nominal. But there is nothing in the situation to indicate a return to the price levels of a year ago, or the still lower figures of last March. Everywhere in the industries are evidences of returning activity—of a more general prosperity—and the resulting demand for rubber goods without an increased supply of raw material, points to higher priced rubber, as a permanent condition, than has been the rule for the past twelve months prior to November. The condition is one of acute interest to manufacturers just now, and particularly to such as may have marked down the prices of finished goods to correspond with the last slump in crude rubber quotations.

From Pará, where the public authorities are ever active in the matter of putting on trade all the burdens of taxation it will bear, come reports of a new monopoly or syndicate to deal with all the rubber produced in Pará State. While full details are lacking, the scheme would appear to involve some financial benefit to the government, and the object can hardly be to lessen the cost of rubber to consumers. The fear is entertained in some quarters that the purpose may be to create a "corner" in rubber, and thus keep up prices, but the impracticability of such a course is pointed out in an article reprinted elsewhere from the *Manao's Revista*. Leaders in the rubber trade in different countries are seeking to have political influence brought to bear against the Pará suggestions.

Following are the quotations of New York for Pará grades one year ago, one month ago, and November 30, the current date:

PARÁ.	Dec. 1, '07.	Nov. 1, '08.	Nov. 30,
Islands, fine, new	72@73	103 @104	114@115
Islands, fine, old	none here	@108	none here
Upriver, fine, new	83@84	109 @110	123@124
Upriver, fine, old	86@87	112 @113	127@128
Islands, coarse, new	44@45	53¼@54	60@61
Islands, coarse, old	none here	@60	none here
Upriver, coarse, new	66@67	83 @84	92@93
Upriver, coarse, old	none here	none here	none here
Cametá, coarse	none here	55 @56	63@64
Caucho (Peruvian), sheet	56@57	59 @60	74@75
Caucho (Peruvian), ball	66@67	77 @78	90@91
Ceylon (Plantation), fine sheet	93@94	118 @119	129@130

AFRICAN.

Sierra Leone, 1st quality	97@98	Lopori ball, prime	112@113
Massai, red	97@98	Lopori strip, prime	86@87
Benguella	62@63	Madagascar, pinky	89@90

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for car-load lots, per pound—show an advance as compared with last month:

Old rubber boots and shoes—domestic	93½@9½
Old rubber boots and shoes—foreign	94@9½
Pneumatic bicycle tires	6 @6½
Automobile tires	6 @6½
Solid rubber wagon and carriage tires	7 @8
White trimmed rubber	10½@11
Heavy black rubber	5¼@5½
Air brake hose	3¾@4
Garden hose	2 @2¼
Fire and large hose	2¾@3
Matting	11½@12

Accra, flake	21@22	Ikelemba	none here
Cameroon ball	62@63	Soudan niggers	85@86

CENTRALS.

Esmeralda, sausage	83@84	Mexican, scrap	80@81
Guayaquil, strip	69@70	Mexican, slab	58@60
Nicaragua, scrap	81@82	Mangabeira, sheet	56@57
Panama	60@61	Guayule	30@37

EAST INDIAN.

Assam	92@93	Borneo	35@45
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Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	5\$200	Upriver, fine	6\$200
Islands, coarse	2\$400	Upriver, coarse	4\$200
		Exchange	15¼d.

Latest Manao's advices:

Upriver, fine	7\$000	Exchange	15¼d.
Upriver, coarse	5\$000		

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.		Total	Total	Total
	Fine and Medium.	Coarse.	1908.	1907.	1906.
Stocks, September 30...tons	48	31 =	79	173	156
Arrivals, October	984	474 =	1458	1313	1354
Aggregating	1032	505 =	1537	1486	1510
Deliveries, October	852	464 =	1316	1316	1385
Stocks, October	180	41 =	221	170	125

	PARÁ.		ENGLAND.		
	1908.	1907.	1906.	1908.	1907.
Stocks, September 30...tons	440	572	1450	285	550
Arrivals, October	3160	2950	2985	805	895
Aggregating	3600	3522	4435	1090	1445
Deliveries, October	3080	3105	4295	825	850
Stocks, October 31	520	417	140	265	595
World's visible supply, October 31				2742	2779
Pará receipts, July 1 to October 31				7830	7670
Pará receipts of Caucho, same dates				1130	880
Afloat from Pará to United States, Oct. 31				586	835
Afloat from Pará to Europe, October 31				1150	762

In regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street, New York) advises as follows: "The money market has continued easy through November, with a fair demand for rubber paper at 5@5½ per cent. for the best names, and 5¼@6 per cent. for those not so well known, but probably the demand will fall off in December, as usual."

Liverpool

EDMUND SCHLUTER & Co. report [October 31]:

The scarcity of supplies of actual available rubber in warehouse in the consuming markets, which explains the rapid advance of values, is still in evidence, but the larger quantities now afloat to Europe (if not artificially withheld, as seems to be the intention of some of the shippers)

NEW TRADE PUBLICATIONS.

THE HOGGSON & PETTIS MANUFACTURING Co. (New Haven, Connecticut), now in business just 60 years, issue a booklet on the title page of which they are aptly described as "Assistants to All Manufacturers of Rubber Goods." They supply such essentials as engraved rolls for rubber shoe soles and uppers; molds for boot heels, horseshoe pads, and the like; cutting dies; gauges for measuring sheet rubber, and a variety of other rubber factory requisites. This is their catalogue 8 B. [4" x 7¼". 12 pages.]

THE widely and well-known "Mason Regulators" are briefly, but informally described in a handsome illustrated booklet entitled "Mason Service for Mills and Factories," issued by MASON REGULATOR Co. (Boston). It should prove of interest [4" x 9¼". 8 pages.]

should be more than sufficient for any normal requirements, and thus prevent the necessity of a much further advance.

THE WORLD'S VISIBLE SUPPLY OF PARA, OCTOBER 31.

	1908.	1907.	1900.	1905.	1904.	1903.
Tons	3777	3586	2502	2936	2207	2457
Prices, hard fine	4/7½	4/0½	5/2¼	5/2½	5/-	4/2½

WILLIAM WRIGHT & Co. report [November 2]:

Fine Pará.—With a strong demand from the trade, and especially America, a very large business has been done, and a further advance of 3d. per pound has taken place. Stocks are extremely small, practically reduced to a minimum; there is every probability of the demand continuing, and as the shippers in Brazil are paying much higher prices than those ruling here and in New York, a still further advance in values seems to be inevitable. How far the advance will go before being checked remains to be seen, but, in our opinion, a return to the recent low values is out of the question. Closing value, hard find, 4s. 8d. [= \$1.13½]; soft, 4s. 5d. [= \$1.07½].

Mexico.

EXPORTS of crude india-rubber for the fiscal year ended June 30, 1907. Official figures supplied by the secretaria de estado y del despacho de hacienda, credito publico y comercio. [Compare THE INDIA RUBBER WORLD, September 1, 1908, page 396.]

To—	Kilograms.	Value (Silver).
United States	3,694,718	\$5,910,411.50
Germany	916,468	649,830.50
France	48,085	78,593.00
Spain	16,086	21,868.00
Belgium	15,096	15,217.00
Great Britain	843	2,570.00
Italy	128	384.00
British Honduras	52	52.00
Total	4,691,476	\$6,678,926.00

The quantity of exports for the fiscal year ended June 30, 1908, is not yet officially stated, but the value is given at \$8,891,681.30.

Antwerp

RUBBER ARRIVALS FROM THE CONGO.

OCTOBER 5.—By the steamer *Bruxellesville*:

Bunge & Co.	(Société Générale Africaine) kilos	93,500
Do .....	.....	31,500
Do	(Société Anversoise)	15,000
Do	(Comité Special Katanga)	3,800

PARA RUBBER VIA EUROPE.

	POUNDS.
Oct. 23.—By the <i>Patricia</i> =Hamburg:	
W. L. Gough Co. (Fine).....	11,500
Poel & Arnold (Coarse)	15,000
Oct. 23.—By the <i>Louisiana</i> =Havre:	
New York Commercial Co. (Fine).....	11,500
Oct. 24.—By the <i>Campania</i> =Liverpool:	
General Rubber Co. (Fine).....	15,000
General Rubber Co. (Coarse).....	4,500
Livesey & Co. (Coarse).....	11,500
New York Commercial Co. (Fine)	8,000
Oct. 26.—By the <i>St. Paul</i> =London:	
Poel & Arnold (Coarse).....	15,000
Oct. 30.—By the <i>Tagus</i> =Mollendo:	
New York Commercial Co. (Fine).....	6,500
W. R. Grace & Co. (Cauchos).....	14,000
Oct. 30.—By the <i>Cedric</i> =Liverpool:	
Livesey & Co. (Coarse).....	11,000
Poel & Arnold (Cauchos).....	100,000
New York Commer. Co. (Cauchos).....	100,000
Neuss, Hesslein & Co. (Cauchos).....	8,500
Neuss, Hesslein & Co. (Fine).....	8,500
Oct. 30.—By the <i>Pretoria</i> =Hamburg:	
General Rubber Co. (Coarse).....	11,000
W. L. Gough Co. (Fine).....	5,500
Nov. 4.—By the <i>Bluecher</i> =Hamburg:	
New York Commercial Co. (Fine).....	7,000
Nov. 4.—By the <i>Finland</i> =Antwerp:	
W. L. Gough Co. (Fine).....	9,000
George A. Alden & Co. (Cauchos).....	4,500
Nov. 7.—By the <i>Lucania</i> =Liverpool:	
General Rubber Co. (Fine).....	63,000
New York Commer. Co. (Cauchos).....	11,500
Nov. 12.—By the <i>Magdalena</i> =Mollendo:	
W. R. Grace & Co. (Fine).....	3,500
Nov. 16.—By the <i>Caronia</i> =Liverpool:	
New York Commer. Co. (Fine).....	17,000
Raw Products Co. (Coarse).....	9,000
General Rubber Co. (Fine).....	5,000
Livesey & Co. (Coarse).....	7,000
Poel & Arnold (Cauchos).....	135,000
Poel & Arnold (Fine).....	15,000

Nov. 17.—By the *Minneapolis*=London:
New York Commercial Co. (Coarse)....

Nov. 20.—By the *Lusitania*=Liverpool:
General Rubber Co. (Fine).....

OTHER NEW YORK ARRIVALS.

	POUNDS.
Oct. 23.—By the <i>Norman Prince</i> =Bahia:	
Poel & Arnold	56,000
Oct. 23.—By the <i>Prins Frederick</i> =Savanna:	
G. Amsinck & Co.	4,000
Oct. 24.—By the <i>Campania</i> =Liverpool:	
George A. Alden & Co.	20,000
Oct. 26.—By the <i>Advance</i> =Colon:	
G. Amsinck & Co.	9,000
Piza, Nephews Co.	3,500
Roldau & Van Sickle	2,500
Maitland, Coppell Co.	2,000
Demarest Bros. & Co.	2,000
Hirzel, Feltman & Co.	2,000
L. Johnson & Co.	1,500
R. Mandell & Co.	1,000
Jose Julia & Co.	1,000
A. M. Capens Sons.....	1,000
Oct. 26.—By the <i>Monterey</i> =Frontera:	
E. N. Tibbals & Co.	2,000
Harburger & Stack	2,000
J. G. Mallath	1,000
American Trading Co.	1,000
Oct. 26.—By the <i>El Rio</i> =Galveston:	
Continental-Mexican Rubber Co.	*66,000
Oct. 26.—By the <i>Byron</i> =Bahia:	
A. Hirsch & Co.	65,000
A. D. Hitch & Co.	20,000
Oct. 27.—By the <i>Manzanillo</i> =Tampico:	
Edward Maurer	*90,000
Poel & Arnold	45,000
New York Commercial Co.	*22,000
General Export Co.	*3,000

Oct. 28.—By the *Sergipe*=Bahia:

A. Hirsch & Co.	17,000
A. D. Hitch & Co.	5,500
Frame & Co.	2,500
Thomsen & Co.	1,000
Total	26,000

Oct. 30.—By the *Tagus*=Colon:

I. Brandon & Bros.	32,000
Kunhardt & Co.	11,500
D. Midgeley & Sons.....	2,500
Mecke & Co.	1,500
Suzarte & Whitney	1,500
Seanz & Co.	1,000
G. Amsinck & Co.	1,000
Total	51,000

Oct. 30.—By the *Cedric*=Liverpool:

George A. Alden & Co.	5,000
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Oct. 31.—By the *Merida*=Frontera:

E. N. Tibbals Co.	2,500
Harburger & Stack	1,000
N. Y. & Mexican Co.	1,000
H. Marquardt & Co.	1,000
Total	5,500

Nov. 4.—By the *Bluecher*=Hamburg:

New York Commercial Co.	*27,000
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Nov. 4.—By the *Finland*=Antwerp:

New York Commercial Co.	*38,000
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Nov. 4.—By the *Comus*=New Orleans:

Eggers & Heinlein	2,000
K. Mandell & Co.	1,000
Total	3,000

Nov. 4.—By the *Prins Willem*=Colon:

G. Amsinck & Co.	5,000
L. Johnson & Co.	7,000
A. Santos & Co.	5,000
A. M. Capens Sons.....	3,500
W. R. Grace & Co.	2,500
Hirzel, Feltman & Co.	2,500
Pablo, Caloet & Co.	1,500
Mecke & Co.	1,500
Roldau & Van Sickle	1,000
Total	29,500

Nov. 7.—By the *Lucania*=Liverpool:

Rubber Trading Co.	7,000
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Bunge & Co.	(Société Abir)	8,500
Do	(Comptoir Commercial Congolais)	33,000
Do	(Cie. du Kasai)	65,000
Do	(Chemins de fer Grands Lacs)	2,100
Société Coloniale Anversoise.....	(Belge du Haut Congo)	1,400
Do	(Société Ikelamba)	2,800
Do	(Cie. du Lomami)	8,100
Do .....	.....	3,300
L. & W. Van de Velde.....	.....	7,000
Total .....	.....	275,000

RUBBER ARRIVALS FROM THE CONGO.

OCTOBER 26.—By the steamer *Albertville*:

Bunge & Co.	(Société Générale Africaine) kilos	83,500
Do .....	.....	37,300
Do	(Société Anversoise)	55,700
Do	(Société Umangi)	925
Do	(Comité Special Katanga)	17,700
Do	(Société Abir)	9,300
Do	(Chemins de fer Grands Lacs)	5,500
Do	(Cie. du Kasai)	56,000
Société Coloniale Anversoise.....	(Belge du Haut Congo)	580
Do	(Cie. du Lomami)	2,290
L. & W. Van de Velde.....	.....	10,000
Cassart & Henrion .....	.....	280
Total .....	.....	279,075

RUBBER STATISTICS FOR OCTOBER.

DETAILS.	1908.	1907.	1906.	1905.	1904.
Stocks, Sept. 30.....kilos	654,161	719,005	566,683	566,735	804,482
Arrivals, in October.....	554,756	237,963	509,727	555,920	363,490
Congo sorts	487,104	180,366	444,829	391,112	293,905
Other sorts	67,652	57,597	64,898	164,808	69,585
Aggregating	1,208,917	956,968	1,076,410	1,122,655	1,167,972
Sales in October.....	546,813	233,152	455,329	568,172	457,112
Stocks, October 31.....	662,104	723,816	621,081	554,483	710,860
Arrivals since Jan. 1.....	4,217,919	4,302,317	4,762,232	4,615,168	4,845,311
Congo sorts	3,583,058	3,656,700	3,702,744	3,543,296	3,995,454
Other sorts	634,861	645,617	1,059,488	1,071,872	849,857
Sales since Jan. 1.....	4,562,709	4,236,685	4,876,338	4,602,046	4,745,351

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

IMPORTERS	Fine.	Medium.	Coarse.	Cauchos.	TOTAL.
New York Commercial Co.	226,600	39,200	102,500	37,100	405,400
A. T. Morse & Co.	100,400	20,900	121,100	.....	242,400
Hagemeyer & Brunn.....	113,600	7,400	66,400	.....	187,400
C. P. dos Santos.....	71,700	8,600	90,100	24,400	194,800
Poel & Arnold	58,600	2,100	86,100	3,300	150,100
G. Amsinck & Co.	34,300	5,700	1,800	.....	41,800
Edmund Reeks & Co.	20,000	1,500	10,600	.....	32,100
William E. Peck & Co.	8,900	300	5,900	.....	15,100
General Rubber Co.	5,800	900	8,200	.....	14,900
Total	639,900	86,600	492,700	64,800	1,284,000

[NOTE.—The steamer *Benedict* is due at New York, carrying 1,100 tons of Para rubber and 30 tons of cauchos.]

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it DOES NOT BLOW UNDER CURE.

WRITE FOR PRICES.

Massachusetts Chemical Co., Walpole, Mass.

SOLE FACTORS—
WALPOLE RUBBER WORKS—
WALPOLE VARNISH WORKS—
ELECTRIC INSULATION LABORATORY

WE ARE OFFERING SCRAP RUBBER AT LOW PRICES



Theodore Hofeller & Company
BUFFALO, N. Y.



WE SOLICIT YOUR INQUIRIES

Rubber Boot and Shoe Manufacturers

- ☞ Would you like to prevent the cracking of your rubbers?
- ☞ Our MALTHA HYDRO-CARBON retains its pliability at zero weather.
- ☞ Drop us a line, and with pleasure we'll send you a working sample gratis.

AMERICAN WAX COMPANY, 161 Summer St., Boston, Mass.

THE MOST TALKED OF
CHEMICAL IN THE
RUBBER TRADE

Write for Leaflet

American Vulcolite Co., 161 Summer St., Boston, Mass.

VULCOLITE

CHARLES T. WILSON MEXICAN (Guayule) RUBBER

I invite inquiries from manufacturers on this rubber. Being the direct representative of large producers, I am in position to quote on various qualities for immediate and future delivery.

Telegraphic Address.
"CRUDERUB"

Office,

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NEW YORK CITY

GUAYULE

**WHEN PROPERLY CURED AND MIXED WITH OTHER COMPOUNDS
IS THE CHEAPEST RUBBER ON THE MARKET**

**There is As Much Difference Between the Various Brands of Guayule
as Between Fine Para and Shoddy**

Guayule made from old, sun exposed shrub is **dead, dirty and sticky**, and no amount of washing will make it clean, while rubber made from freshly cut, selected shrub, has **life**, low percentage of resin and is practically clean.



has been on the market for several years and is known to be the best Guayule made as to life, strength, purity and low percentage of resin.

There is a large demand for a specially prepared Guayule, dry and ready for use, which we have met in



As this rubber is made exclusively from our high grade "Parra" Guayule, uniformity and absolute purity is guaranteed. No mixing in of cheap compounds to bring down the price. Durango rubber is nothing but Parra brand pure Guayule prepared so that anybody can use it.

**CONTRACTS MADE FOR REGULAR MONTHLY
OR WEEKLY DELIVERIES**

For Samples and Quotations apply to

ED. MAURER
97 Water St., NEW YORK

**Sole Representative of the MADERO interests in Mexico,
largest owners of Guayule**

Nov. 5.—By the *Bayam*=Tampico:
Edward Maurer 135,000
Poel & Arnold 55,000
H. Marquardt & Co. 2,500 *392,500

Nov. 6.—By the *Estrella*=Colon:
G. Amsinck & Co. 3,000
West Coast Rubber Co. 3,000
Fidalgue Bros. & Co. 1,000
Henry Mann & Co. 1,000 7,000

Nov. 11.—By the *Santa*=Columbia:
A. M. Capet & Sons 3,500
G. Amsinck & Co. 3,500
Arambaro, Incorporated 3,500
A. Santos & Co. 2,500
Meeker & Co. 1,500
A. S. Lascellas & Co. 1,500
Henry Mann & Co. 1,000 17,000

Nov. 12.—By the *Magdalena*=Colon:
I. Brandt & Bros. 25,000
J. M. La Vega 1,000
A. T. Morse & Co. 1,000 27,000

Nov. 13.—By the *Highway*=Cartagena:
G. Amsinck & Co. 2,500
Kunhardt & Co. 2,500
De Luna & Cortessa 2,500 7,500

Nov. 14.—By the *Mari*=Frontera:
Harburger & Stuck 2,500
E. Steiger & Co. 2,500
Graham, Hinkley Co. 2,000
American Trading Co. 1,000 8,000

Nov. 14.—By the *Pres't. Lincoln*=Hamburg:
New York Commercial Co. *22,500

Nov. 14.—By *El Mar*=Galveston:
Edward Maurer *18,000

Nov. 16.—By the *Finance*=Colon:
Hirzel, Feltman & Co. 3,000
Andean Trading Co. 2,500 5,500

Nov. 16.—By the *Seneca*=Tampico:
Edward Maurer 145,000
New York Commercial Co. *67,000
Poel & Arnold *35,000 *247,000

Nov. 17.—By the *Caronia*=Liverpool:
Robinson & Co. 33,500

Nov. 18.—By the *Kronland*=Antwerp:
Robinson & Co. *34,000

Nov. 19.—By the *Prins Frederic*=Columbia:
Kunhardt & Co. 3,500
A. Held 2,000
G. Amsinck & Co. 1,500
I. Brandt & Bros. 1,000 8,000

Nov. 20.—By the *Seiglinde*=Bahia:
A. Hirsch & Co. 4,500

Nov. 21.—By the *Monterey*=Frontera:
H. Marquardt & Co. 2,500
E. N. Tibbals & Co. 1,500
Harburger & Stuck 1,500
General Export Co. 1,000
E. Steiger & Co. 1,000 7,500

*This sign, in connection with imports of Centrals, denotes Guayule rubber.

AFRICANS.

POUNDS.

Oct. 23.—By the *Patricia*=Hamburg:
A. T. Morse & Co. 15,000
George A. Alden & Co. 15,000
General Rubber Co. 8,000
Rubber Trading Co. 3,500 41,500

Oct. 23.—By the *Louisane*=Havre:
A. T. Morse & Co. 110,000
George A. Alden & Co. 45,000 155,000

Oct. 23.—By the *Baltic*=Liverpool:
A. T. Morse & Co. 9,000
Rubber Import Co. 9,000
Robinson & Co. 8,000
Livesey & Co. 5,000 31,000

Oct. 24.—By the *Campana*=Liverpool:
George A. Alden & Co. 33,500
General Rubber Co. 16,000
Livesey & Co. 16,000 65,500

Oct. 26.—By the *Amerika*=Hamburg:
A. T. Morse & Co. 15,000
Poel & Arnold 11,500
Muller, Schall & Co. 8,000
W. L. Gough Co. 11,000 45,500

Oct. 26.—By the *Chicago*=Havre:
A. T. Morse & Co. 22,500
Livesey & Co. 5,000 27,500

Oct. 30.—By the *Samland*=Antwerp:
A. T. Morse & Co. 9,000
W. L. Gough Co. 4,500 13,500

Oct. 30.—By the *Cedric*=Liverpool:
George A. Alden & Co. 22,500
Livesey & Co. 15,000
Rubber Import Co. 5,000
A. T. Morse & Co. 2,500 45,000

Oct. 30.—By the *Pretoria*=Hamburg:
Geo. A. Alden & Co. 50,000
Muller, Schall & Co. 40,000
Poel & Arnold 11,500
W. L. Gough Co. 7,000 108,500

Oct. 30.—By the *Kaiser*=Genoa:
W. L. Gough Co. 5,000
George A. Alden & Co. 2,500 7,500

Nov. 1.—By the *Blanche*=Hamburg:
George A. Alden & Co. 25,000
Poel & Arnold 15,000
W. L. Gough Co. 14,000
Muller, Schall & Co. 7,000 61,000

Nov. 5.—By the *Majestic*=London:
General Rubber Co. 56,000
Poel & Arnold 5,000 61,000

Nov. 1.—By the *Finland*=Antwerp:
George A. Alden & Co. 115,000
A. T. Morse & Co. 25,000
Rubber Trading Co. 20,000
Poel & Arnold 15,000
Robinson & Co. 11,000
Joseph Cantor 3,000 189,000

Nov. 7.—By the *Lacuna*=Liverpool:
George A. Alden & Co. 37,000
Poel & Arnold 18,000
Livesey & Co. 5,500
A. T. Morse & Co. 4,500 65,000

Nov. 7.—By the *Augusta Victoria*=Hamburg:
George A. Alden & Co. 35,000
A. T. Morse & Co. 22,500
Rubber Trading Co. 11,500
General Rubber Co. 11,500
Muller, Schall & Co. 8,000 88,500

Nov. 9.—By the *Touraine*=Havre:
George A. Alden & Co. 16,000
Livesey & Co. 1,500 17,500

Nov. 9.—By the *Arabia*=Liverpool:
George A. Alden & Co. 45,000
A. T. Morse & Co. 20,000
Rubber Import Co. 7,000 72,000

Nov. 9.—By the *Taderland*=Antwerp:
W. L. Gough Co. 44,500
A. T. Morse & Co. 22,500
Poel & Arnold 27,000
Raw Products Co. 4,500
Rubber Trading Co. 2,500 101,000

Nov. 10.—By the *Noordam*=Rotterdam:
Poel & Arnold 22,500

Nov. 11.—By the *Oceanic*=Havre:
George A. Alden & Co. 145,000
Robinson & Co. 7,000 152,000

Nov. 14.—By the *Pres't. Lincoln*=Hamburg:
George A. Alden & Co. 17,000
Muller, Schall & Co. 15,000
Rubber Trading Co. 7,000 39,000

Nov. 16.—By the *Celtic*=Liverpool:
W. L. Gough Co. 11,500

Nov. 16.—By the *Caronia*=Liverpool:
George A. Alden & Co. 35,000
Muller, Schall & Co. 22,500
Poel & Arnold 4,000
General Rubber Co. 2,000 63,500

Nov. 17.—By the *Minneapolis*=London:
Raw Products Co. 8,000

Nov. 18.—By the *Kronland*=Antwerp:
A. T. Morse & Co. 65,000
Robinson & Co. 3,500
Raw Products Co. 8,500 77,000

Nov. 19.—By the *Teutonic*=London:
Poel & Arnold 9,000
Livesey & Co. 4,500 13,500

EAST INDIAN.

POUNDS.

Oct. 22.—By the *Quito*=Singapore:
Heabler & Co. 22,500
O. Isenstein & Co. 18,000
George A. Alden & Co. 9,000 49,500

Oct. 26.—By the *Minnetonka*=London:
New York Commercial Co. *22,500
A. T. Morse & Co. *17,500
Rubber Import Co. *5,500
Poel & Arnold *2,500 *48,000

Oct. 31.—By the *Drachenfels*=Colombo:
A. T. Morse & Co. *11,500

Nov. 2.—By the *Albenga*=Singapore:
Heabler & Co. 22,500
O. Isenstein & Co. 22,500
George A. Alden & Co. 11,500 56,500

Nov. 2.—By the *New York*=London:
A. T. Morse & Co. *9,000
Poel & Arnold *4,500
Poel & Arnold 15,000 28,500

Nov. 4.—By the *Finland*=Antwerp:
George A. Alden & Co. *18,000

Nov. 5.—By the *Mesaba*=London:
A. T. Morse & Co. *27,000
New York Commercial Co. *9,000
General Rubber Co. *5,500 *41,500

Nov. 5.—By the *Majestic*=London:
Poel & Arnold *15,000

Nov. 7.—By the *St. Louis*=London:
Poel & Arnold *18,000

Nov. 9.—By the *Manila*=London:
New York Commercial Co. *55,000
Livesey & Co. *5,500 *60,500

Nov. 11.—By the *Oceanic*=London:
Poel & Arnold *22,500

Nov. 13.—By the *Kabanga*=Columbia:
A. T. Morse & Co. *9,000

Nov. 14.—By the *Philadelphia*=London:
A. T. Morse & Co. *11,500
Poel & Arnold 27,000 38,500

Nov. 17.—By the *Monmouth*=London:
New York Commercial Co. *22,500
A. T. Morse & Co. *9,000
General Rubber Co. *3,500 *35,000

Nov. 19.—By the *Teutonic*=London:
Poel & Arnold *22,500

*Denotes plantation rubber.

GUTTA-JELUTONG.

POUNDS.

Oct. 22.—By the *Quito*=Singapore:
Heabler & Co. 550,000
W. L. Gough Co. 530,000
N. Joachimson 110,000
Poel & Arnold 200,000
George A. Alden & Co. 120,000
In Transit 225,000 1,735,000

Nov. 2.—By the *Albenga*=Singapore:
Heabler & Co. 220,000
W. L. Gough Co. 115,000
L. C. Hopkins Co. 75,000
Poel & Arnold 55,000 465,000

Nov. 16.—By the *Bisley*=Singapore:
Heabler & Co. 225,000
W. L. Gough Co. 110,000
L. C. Hopkins Co. 125,000 460,000

GUTTA-PERCHA.

Oct. 22.—By the *Quito*=Singapore:
George A. Alden & Co. 27,000

Nov. 5.—By the *Mesaba*=London:
Rubber Import Co. 4,500

Nov. 14.—By the *President Lincoln*=Hamburg:
Robert Soltan Co. 13,500

Nov. 16.—By the *Bisley*=Singapore:
Heabler & Co. 22,500
W. L. Gough Co. 20,000
George A. Alden & Co. 4,500 47,000

BALATA.

Oct. 23.—By the *Parima*=Demerara:
Middleton & Co. 6,000
C. Tennants Sons & Co. 2,000 8,000

Nov. 4.—By the *Sarman*=Demerara:
George A. Alden & Co. 15,000
Frame & Co. 3,000 18,000

Nov. 16.—By the *Maraval*=Trinidad:
C. Tennants Sons & Co. 3,000

Nov. 17.—By the *Coppername*=Demerara:
George A. Alden & Co. 13,500
Middleton & Co. 4,500 18,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—OCTOBER.

Imports:	Pounds.	Value.
India-rubber	6,623,669	\$3,862,388
Balata	186,376	70,306
Gutta-percha	22,818	5,246
Gutta-jelutong (Pontianak)	2,248,745	720,339
Total	9,078,608	\$4,000,979
Exports:		
India-rubber	121,598	\$90,561
Reclaimed rubber	43,095	5,628
Rubber scrap imported	1,175,722	95,207

BOSTON ARRIVALS.

POUNDS.

Oct. 9.—By the *Scheykull*=Singapore:
Heabler & Co., Gutta-percha 21,500

Oct. 12.—By the *Sachem*=Liverpool:
Poel & Arnold, Africans 5,600

Oct. 15.—By the *Savona*=Liverpool:
George A. Alden & Co., Africans 23,000

Oct. 19.—By the *Republic*=Liverpool:
George A. Alden & Co., Africans 12,500

Oct. 29.—By the *Iveona*=Liverpool:
George A. Alden & Co., Africans 23,000
C. L. Hathaway & Son 7,000 30,000



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THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THERE has been such an improvement in the matter of collections that the merchants in the rubber trade are at a loss to account for it. While trade is still rather quiet, collections are remarkably good, and retailers everywhere seem able and anxious to discount their bills. This is taken as a most excellent precursor of flourishing times, showing that the financial confidence has been restored and as soon as the merchants begin to order to fill up the stocks which have been allowed to run very low there will probably be all the business that can be taken care of. Already in some lines—sundries for instance—

manufacturers in the East are slow about filling orders and the dealers here claim to have difficulty in getting goods.

Mr. W. J. Gorham, president of the Gorham Rubber Co., of San Francisco, and formerly mayor of Alameda, was accidentally shot in the right arm while hunting duck on his game preserve near Alvarado recently. With Edward Garrett, of the company's branch house in Seattle, and Elmer White, of San Francisco, they were dragging the duck boat across the marsh when one of the guns was accidentally discharged and about thirty bird shot penetrated Mr. Gorham's arm, from the wrist up. Fortunately their steam launch was near at hand, and he was quickly hurried to Alameda where he received medical attention. Mr. Gorham has recovered rapidly.

Mr. R. H. Pease, Jr., treasurer of the Goodyear Rubber Co., has returned from an extended trip through the northwest and in sizing up the business situation he concludes that the future for the rubber business will be a busy one on the coast. "Collections," he said, "are better than they have been for a number of years. Money seems to be freer and people are cleaning up their accounts and discounting their bills. We notice this more particularly from our Portland (Oregon) branch, where through the north the collections have been unusually good. But the same is true to a large extent in San Francisco. The boot and shoe business is quiet because so far we have had almost no rain, but the general mechanical business is fair, and with lots of promises for orders later on, it looks as though times would soon get back to where they were before the financial disturbances struck the city. If it begins to rain soon we will dispose of a great many boots and shoes this fall."

Mr. James F. Giles, of the American Hard Rubber Co., is in San Francisco on a business trip, and is making his headquarters with the Goodyear Rubber Co., on Market street.

Mr. P. T. Sprague, rubber supplies, belting, packing, hose and molded rubber goods now holds forth in convenient offices at Nos. 70-72 Spear street, where he is convenient to the shipping trade. Mr. Sprague has been in business for himself about three years now and he has been unusually successful. Prior to starting out for himself he was for twenty years with that good firm which seems to have a record for keeping all of its employes for twenty years and more—the Goodyear.

Local merchants believe that eastern manufacturers could materially assist them in making money if they would be more careful in taking into consideration the great distance between the coast and the eastern states. If the factories, they say, would consider the distance between San Francisco and New York, and would in some measure anticipate the orders from this coast and fill them promptly, instead of holding them up and give the local merchants preference in making up shipments, it would mean a great many dollars to the local trade, because the delays in freight work a great loss at best.

Mr. C. E. Mathewson, of The Diamond Rubber Co., expects to make a trip to the northwest next week, with a view to locating a branch store in the north, probably in Seattle. This firm recently received word from its Los Angeles branch that in the recent 24-hour automobile race the winning automobile carried Diamond tires, and the entire race, covering 836 miles, was run without a change of tires, making the world's record. These same tires were then driven from Los Angeles to Phoenix, Ariz., without mishap.

The Phoenix Rubber Co. are now fully established, and have their factory running at the new quarters on First street. Mr. Kanzee, one of the proprietors, will return from his eastern trip next week.

Mr. Parish has returned from his trip to the Orient, and states that conditions there have been very quiet. Mr. Sargeant says that the general conditions in California have not begun to show much change except in the matter of collections, which are much better, and everybody, he says, seems to be looking forward to good times.

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(Successor to Dr. Peter T. Austen),
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REGISTERED TRADE-
MARK IS STAMPED ON
THE INSIDE.



INDIA RUBBER WORLD

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GUTTA-PERCHA

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THE BUSINESS PROSPECT.

THE new year opens under more favorable auspices than did the year which has just closed. Twelve months ago the topic of foremost interest in the business world was the financial crisis which then had lately developed in the United States, the effects of which were still acute. Some large banks had closed their doors, there was a general limiting of business credits, and factories of nearly every kind were closed or else working on reduced schedules. The ultimate effect was reflected in every civilized country—in international trade, in stock exchange transactions, in affairs as remote as those of rubber planting in Ceylon or the public finances of the Amazon states. The india-rubber trade was affected, of course, so close is its relation to nearly every form of industry; on account of the reduced demand for rubber goods the market prices of crude rubber fell to the lowest figures for many years.

The American people are ever optimistic, however, and although at the beginning of 1908 the limits of the existing trouble could not be foreseen, it was regarded by leaders in business not as a "panic" but rather as a temporary flurry, the effects of which might even prove beneficial by teaching caution in some quarters. The history of the year has justified the optimists, and gives reason for hope of continued improvement during the

coming year. Moreover it has given the world at large new evidence of the solvency of this country and its capacity to withstand financial shocks. It cannot be said that business as a whole has resumed the status which existed before the depression, but then the volume of production had reached figures which might be described as above normal. At least the country is prosperous now, and fears of further trouble have vanished.

It may be added that nearly all the large banks, the closing of which, late in 1907, alarmed the public, have resumed business, in most cases without involving loss to shareholders or depositors. There were a few institutions, however, which met a different fate, for their managers have had to face criminal proceedings, and at least one is in prison. The elimination of unsound banks is a cause for congratulation, and the public confidence in the banking system is strengthened rather than weakened by the events of the year. Some very important corporations, industrial and otherwise, which were forced to apply for receiverships, have been reorganized, under the same management as before, and apparently have good prospects. An important automobile concern, for example, which failed for a very large sum, has paid its claims in full, with interest added, and many other indications might be given of recovery in business circles.

The advance in crude rubber prices is in itself a sign of improving business. The rubber factories are likely to be kept busy in the near future to supply goods required by large consumers, who for awhile restricted their buying. It is true that the rubber footwear trade has been confronted by a lack of snow, but there is a possibility that this shortage may be made up before spring comes. The rubber tire trade, however, has been active all year, showing no ill effects from the depression.

IT MUST BE CRUDE RUBBER.

A QUESTION that has arisen in the customs administration at New York and has been referred to THE INDIA RUBBER WORLD, relates to a new class of rubber which of late has come into this port in considerable quantities. We have been asked whether this is a manufactured product. The rubber in question is imported in regularly shaped pieces—sheets, for example—having the appearance of having been fashioned by the use of machinery, besides which some of them are stamped with what seem to be the marks of a manufactory. If this should be a manufactured product, the zealous customs employees would feel obliged to impose a duty on its importation—hence this investigation.

We can see no reason why the particular product referred to should not come under the classification "crude india-rubber" (in paragraph 579 of the Tariff act), quite as much as any other rubber imported now or in the past. The "Century Dictionary" defines manufacturing as "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities,

properties, or combinations, whether by hand labor or by machinery." No matter in what shape rubber may be marketed, or by what means it may have been shaped, it is not an "article for use" until it has undergone certain manipulations which are lacking in the case of the recent imports at New York.

The difference in this case from others is that the primitive methods of preparing rubber from latex in the forest have been supplanted on the Ceylon and Malaya plantations with mechanical processes. The result is a cleaner rubber and one more desired by manufacturers for certain purposes. But the rubber as imported has no commercial value except as a raw material for use in making the rubber goods of commerce. Every essential process in rubber manufacture must be applied to the mechanically pressed rubber from plantations, the same as to forest rubber which has been prepared without the aid of machinery. The Ceylon product, therefore, must be "crude rubber."

PLANTATION RUBBER YIELDS.

THE latest mail advices to hand at this writing report the shipment from Ceylon and Malaya, during something less than eleven months of this year, of 3,401,734 pounds of plantation rubber. The figure for the corresponding period of 1907 was 1,935,103 pounds, and for the preceding year 908,965 pounds. Five years ago the amount was almost *nil*. The rapid growth in the volume of shipments evidently is due (1) to the increasing number of tappable trees, and (2) to an increased annual yield from those trees which have now been tapped for three or four seasons. It seems worth while to emphasize, in this connection, that in the mass of information that has come from the *Hevea* planting region of the Far East—reports so detailed as almost to suggest that every individual rubber tree has been scrutinized—no hint has appeared that one tree of suitable size has failed to yield some rubber, or that any tree, once tapped, has failed to yield at subsequent tapplings.

Thus far it has not been possible, however, to fix upon a definite minimum yield to be expected reasonably from a cultivated rubber tree, of any given age or size. But this is hardly essential. Is there a fixed law of yield of tea or coffee plantations, or of wheat or corn, or of grapes or pears? It is enough if, generally, the product per acre, or for a whole estate, affords a profit. The figures given above show that cultivated trees do yield rubber, and details constantly coming forward indicate an average production of 2 or 3 pounds per tree over considerable areas, taking young and old trees together. In addition to the data on this subject on another page of this issue, it may be noted that Mr. J. B. Carruthers estimates that *all* the rubber trees tapped in Malaya in 1907 yielded an average of 1 pound 12 ounces; the trees included in Perak alone yielded 2 pounds 1 ounce and those in Negri Sembilan 2 pounds 7 ounces. These are

not exceptional yields, but the figures relate to upwards of 1,300,000 trees.

We might pause here to consider the ultimate rubber production of Malaya, where, according to Mr. Carruthers's figures, the rubber planted to date—nearly all within three years—covers about 280 square miles of territory. In this great forest formed by the hand of man it is estimated that there are 97,558,440 rubber trees, planted generally at what is intended to be permanent distances apart. If all these eventually should give a yearly average of 2 pounds, the result would vastly exceed the world's present total production of rubber. In none of these estimates, by the way, is any account taken of Ceylon or the Dutch Indies, or of any part of America or Africa where rubber has been planted.

But our interest at this time is confined to the present yield of plantation rubber, and it appears abundantly established that the yield is ample for present profits on a scale beyond what is usual in most branches of agriculture. We must not leave the subject, however, without pointing out that all the figures used in this connection bear solely upon the cultivation of one rubber species—*Hevea*—in one part of the world. The study of other species, and under other conditions, remains to be carried to a practical conclusion.

DEVELOPMENT OF THE AMAZON.

THE company referred to on another page as having been formed to execute greatly needed improvement works at the port of Pará, through which the great supply of Amazon rubber passes and at which arrives the miscellaneous assortment of the world's products which pay for this rubber, is composed of men of responsibility and distinction in the development of enterprises in new countries, which the Amazon region distinctly is. The merit of their proposition is evident by the sale of their bonds in the leading *bourses* of the world, though this may count less with some people than the success of the members of the directory in such enterprises as the Canadian Pacific Railway, the United Fruit Co., and certain important undertakings in South America.

It is impossible that the southern half of this hemisphere should always remain undeveloped. It happens that the development of the Amazon states naturally proceeds along the lines of least resistance by handling its most valuable natural product—rubber. In order to handle rubber economically and to get into the rubber interior the manufactures of North America and Europe it is necessary to make it possible for ships to approach nearer to the city of Pará. What is proposed to be done there has been done on an immense scale at Liverpool and in New York, and why not at Pará? The work is slower at Pará because of a smaller volume of traffic up to date, and the fact that the owners of capital are not generally informed as to the possibilities of commercial develop-

ment there. It is not a chimerical proposition at all. It is to the interest of every user of a rubber tire, to every railroad company—to every consumer of rubber in any form—that the cost of rubber be minimized, and one important item involves the expense of handling freight at the mouth of the Amazon.

Considered alone, the improvement of the port of Pará does not measure with the great engineering works of the world, yet it is of distinct importance and interest to the rubber trade on account of the fact that more than half the crude rubber entering into consumption of the world is to-day "lightered" from Pará *trapiches* into steamers for New York and Europe. There is beyond this, however, the possibility that allied capitalistic interests may go much further and combine with this assured improvement at Pará other large works of utility that likewise have a bearing upon commerce in rubber. Prior to the beginning of the Pará enterprise something had been done at Manáos to facilitate the shipment of rubber, and last of all is the projected Madeira-Mamoré railway, which now appears to be a certainty. With the Pará and Manáos harbor improvements facilitating ocean shipments, and the circumventing of the falls of the Madeira accomplished, and all working in concert—through an understanding between the investors—isn't it possible that the handling of rubber between forest and factory may be materially cheapened?

The dream has been indulged in many times that by "bottling up the Amazon" the Pará rubber supply could be so monopolized as to enable a few men to put their own price upon the raw material. But this would be against public policy, and could not long prevail. However, the mere suggestion of the matter has done more than any other one thing to stimulate the planting of rubber in Asia. The intelligent investment of capital does not depend for success upon monopoly, but upon promoting permanently the general good, and this seems to afford a sound basis for the grouping of such interests as have been mentioned here in connection with the rubber region. We do not know that this suggestion has been put into words before, and it may be long before the idea here outlined is realized, but its realization would seem as natural as has been the development of the system whereby wheat from the western United States is so cheaply placed in the hands of consumers beyond the Atlantic. The prospect may not be pleasing to the rubber planting interests, but the latter will have ample time in which to strengthen their position before the possibilities of the Amazon have been taken advantage of.

THE RECENT SUCCESSFUL BICYCLE SHOW in London—the thirty-second annual "Stanley" show—indicates an interest in cycling among Britshers in striking contrast with anything that obtains in the United States. Almost simultaneous with the London show a "six days' bicycle race" attracted thousands daily and nightly to Madison Square Garden in New York, but this was a "sporting" event, with the wheel merely as an incident. It was run solely for the benefit of the promoters, and had no beneficial effect upon any legitimate cycling interest—not even as a healthful

sport. The zenith of the bicycle trade in this country occurred in 1896, when the net earnings of the concerns which later were combined in the \$40,000,000 American Bicycle Co. are reported to have been \$7,763,460.39. Though the directorate of the big company was composed of the men who had built up this great industry, they were unable to maintain it when the popular interest in cycling began to decline. All that saved the corporation from absolute failure was the absorption of its depreciated assets by a former leader in the bicycle industry, who formed a new company, on a vastly smaller scale, and now that has had to undergo reorganization, with a view to the manufacture principally of automobiles. Of course the bicycle has not disappeared altogether from American life, and there are even signs of a revival of the cycling interest, in the renewed efforts of rubber manufacturers to market bicycle tires.

THE CANADIAN RUBBER TRADE for the last fiscal year, the first months of which were concurrent with the late financial depression in the United States, on the whole, made a good showing. From the details on another page, it will be seen that the exports of rubber manufactures were larger than the average, and were widely distributed. At the same time, the imports of such goods were larger than for a few years past, though smaller than five years ago. The recent increase may be due to a growing use of rubber goods, involving a demand for special articles which the Canadian factories are not in a position to supply as economically as some concerns elsewhere. It is due to some such consideration that the importation of rubber goods into the United States continues to increase. The imports of raw materials into the Dominion for the last fiscal year showed a marked increase.

THE NUMBER OF PATENTS ISSUED in the United States during the last fiscal year was greater than in any previous twelve months, despite the occurrence meanwhile of what a good many people termed "hard times," which indicates that inventors work whether other people do or not. It is of interest to note that patents continue to be issued for novelties in the rubber trade at a rate which doubtless would surprise Goodyear or Hancock were they now alive, for those gentlemen departed this life with the idea that the whole sum and substance of endeavor in rubber goods was wrapped up in their discoveries.

FRANCE IS THE ONLY COUNTRY manufacturing rubber goods from which the imports of such goods into the United States exceed in value our exports to the same country. Last year we bought from France \$539,480 worth and sold her only \$230,334, showing an "adverse balance" of \$309,146. Without an opportunity for close analysis of the figures, it seems safe to assume that French tires are still coming into the American market in considerable quantities.

THE EDITOR OF THE INDIA RUBBER WORLD is in receipt of a very lengthy article on the "Beginnings of India-rubber," from the pen of an Englishman—one who calls himself a student. He speaks of the late Charles Goodyear as "Mr. Goodyear of Rhode Island, Connecticut." As a matter of suggestion we wish to inform him that Rhode Island is no longer the capital of Connecticut.

IF THE CITY OF NEW YORK, which already owns 231 automobiles for the use of its officials, should go much further in the ownership of these swift vehicles, we need not be surprised to see a municipal tire factory established to supply their rubber equipment.

THE WEATHER LATELY has been as favorable for the motor and tire trade as it has been unfavorable for rubber shoes.

A RUBBER TESTING COMMITTEE.

SO much interest has developed in Europe regarding the standardizing of methods for rubber testing, both physical and chemical, that it has resulted in the formation of an International Committee, of which the following is a partial list. The list of names for all countries except the United States is, for the present, complete, but the full American committee will be completed later.

ENGLAND.

Dr. DAVID SPENCE, University College, Bristol.
 Dr. JOSEPH TORREY, Analytical chemist, Liverpool.
 Mr. HERBERT WRIGHT, A.R.C.S., F.L.S., Editor of *The India-Rubber Journal*, London, Secretary.
 Dr. PHILIP SCHIDROWITZ, F.C.S., Chancery Lane, London.

FRANCE.

M. PIERRE BREUIL, Engineer; editor *Le Caoutchouc et la Gutta Percha*, 49, Rue des Vinaigriers, Paris, Secretary.
 M. VICTOR HENRY, Professor at la Sorbonne, Paris.
 M. BERTRAND, Professor at l'Institut Pasteur, Paris.

GERMANY.

Professor Dr. O. WARBURG, Editor *Der Tropenpflanzer*.
 Dr. F. FRANK, Berlin.
 Dr. R. WEIL, Continental Caoutchouc und Guttapercha Cie., Hanover.
 Dr. F. KÜHLEMAN, Teaterstrasse, Hanover.
 Dr. W. THIEL, Alsterdamm 2, Hamburg.

AUSTRIA.

Dr. HERBST, Secretary.

UNITED STATES.

Mr. H. C. PEARSON, Editor of *THE INDIA RUBBER WORLD*, No. 395 Broadway, New York, Secretary.

CEYLON.

Mr. M. KELWAY BAMBER, Government analytical chemist, Colombo, Secretary.

HOLLAND.

Professor Dr. S. HOOGEWERFF WASSENAAR, Delft.
 Professor Dr. G. VAN ITERSOM, Delft.
 Dr. M. GRESHOFF, Director of the Colonial Museum, Haarlem.
 M. MERENS, Rubber manufacturer, Haarlem.
 Mr. A. H. BERKHOUT, Wageningen (late conservator of forests in Java), General Secretary.
 Dr. TROMP DE HAAS, Buitenzorg, Java.

EXTRACTIONS OF CRUDE RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We all have used resin, ordinary pine resin and other more expensive ones, harder and softer ones, in rubber mixings for various purposes. Being a very near relation to rubber, resins have a greater and are a greater affinity to the rubber molecule than for instance zinc oxide or any other mineral oxides, chalk, oils, etc.

Ergo, used and applied in moderation, resins are useful compounding ingredients. The aim of many processes has been to extract resins. Extractions mean the use of solvents and there is not a process using solvents which has not proved disastrous. Solvents can only be recovered partly. They often affect the quality of the extracted gum. But why extract something which may be made useful by ordinary methods? For instance, let us take the percentage of rubber in Pontianak as 15 per cent., resinous contents 85 per cent. Now the rubber required in a mixing shall have a tensile strength of a rubber containing 15 per cent. of resins only.

Make a combination of crude rubbers giving the required average percentage of resins. All one needs to know is the exact percentage of resin in each rubber; the rest is simple. Such a combination would of course contain a proportionate amount of Pontianak in its native state and other rubbers to match.

I have come to the conclusion that one of the most important factors in working qualities of a mixing is the proper blending of crude rubbers, not only because one obtains a fixed percentage of resins on a reliable basis, but because there is a distinct reaction of one resinous compound upon another, causing practical results of value.

There is of course the ideal condition of affairs still to be worked upon—that is, resinous compounds being so closely re-

lated to rubber may some day lose their identity and become more like their twin brother by a process which would result in imitating nature to some extent. She does it to-day successfully.

How far scientific research work has enabled us to get is represented by some of the new rubber products on the market.

New York, December 8, 1908.

H. D.

RUBBERED FABRICS FOR BALLOONS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Referring to your inquiry, I have no printed matter at hand relating to the rubber-coating of balloons, but if you will refer to "Appleton's Encyclopedia" you will find, under head of Modern Ballooning, an article, written by myself, where my method of coating with rubber is mentioned.

For certain reasons this sort of coating is exceedingly valuable, particularly where haste is required, or when two or more layers of cloth have to be cemented together. But rubber cannot compete with the best oil-varnished fabrics in retaining impermeability—the portions most exposed to the sun quickly drying out, hardening, and becoming porous. There is room for improvement, of course, and the demand for a double silk fabric for dirigible balloons like Baldwin's recently made for the United States government may suggest a combination coating rubber within and varnish without. A black varnish over the top of a dirigible balloon would seem to be a protection to the rubber in the most exposed portion, but the varnish must be of a kind that will not affect the rubber.

I would not advise manufacturers to anticipate any considerable demand of rubber goods for balloon purposes. The orders must necessarily be few and far between, but it might be very convenient to know where the goods could be procured at the shortest notice.

Yours truly, SAMUEL A. KING.

No. 5134 Ridge avenue, Philadelphia.

RUBBER-ASPHALT ROADWAY IN FRANCE.

A RECENT report by the United States consul-general at Marseilles relates to rubber-asphalt roadways, with which experiments have been made for six years past in Marseilles, Paris, Lyons and other French cities, and which as far as can be ascertained have given good results. From Mr. Skinner's report it would appear that the areas thus far paved under the new system are devoted to pedestrian traffic exclusively, "but from the character of the men interested in the company and the increasing importance of the work undertaken, rubber-asphalt paving must be regarded very seriously as a substitute for the more usual form of asphalt paving." The rubber-asphalt paving thus far has been confined to the work of a single company, operating a patented process, the details of which are not given fully. It is stated, however, that "the asphalt reduced to a fine powder is in the presence of rubber swelled and softened by a solvent. The material thus obtained is a brown powder darker than the original asphalt, and it suffices to compress it in order that it shall set and harden rapidly." This pavement is laid upon a foundation of first-class concrete, to a thickness of 1.37 to 1.57 inches. After the application to it of a rammer the surface may be opened immediately to travel.

In a recent issue of *Daily Consular and Trade Reports* (No. 3337) the United States consul at Port Elizabeth, Cape Colony, refers to some "root rubber" plants which he regards as new and of which he sends rough sketches. It happens that these plants have been described at some length in *THE INDIA RUBBER WORLD*: "Ekanda" (*Raphionacme utilis*) in our issue of July 1, 1907—page 300 and *Atractylis gummifera* in March 1, 1908—page 177. The consular report intimates that Mr. O. W. Barrett, of the United States department of agriculture, is now making some investigations of rubber plants in Portuguese East Africa.

Hunting Rubber in Holland---II.

By the Editor of "The India Rubber World"

I HAD heard much of The Hague—as who has not—but it had not occurred to me that it was a most beautiful city of more than 300,000 inhabitants, fashionable, rich, and the home of the royal family. I was more than glad to visit it, particularly as my invitation came from Dr. A. G. N. Swart. As president of the Netherlands Commission in London, he did brilliant work and when he invited me to come to The Hague and be dined I promptly accepted. It is only about 20 minutes from Rotterdam, and one can go over the new magnificent electric road which for equipment and service equals anything anywhere in the world.

At the dinner were Dr. and Mrs. Swart; Dr. J. Th. Viehoff, administrator of the colonial office; Dr. J. C. A. Everwyn, referendar of the department of agriculture, commerce and industry; Dr. W. R. Tromp de Haas, chief of the agricultural and chemical laboratories at Buitenzorg, Java; Mr. Jac. Musly, senior partner of Weise & Co., and Mr. J. G. Von Hemert, of Amsterdam. The dinner was all that hospitality and good taste could suggest. The most remarkable thing to me was that all of the conversation, stories, jokes and speeches were in English. Imagine a party of cultured Americans giving a dinner to a visiting Hollander, and talking only Dutch! It made me a bit ashamed of the linguistic deficiencies of myself and my countrymen.

I did not get much chance to "do" The Hague, nor did I have a good look at the great seaside resort "Scheveningen," situated close to The Hague, and in summer the most famous and fashionable watering place in the world. Still I was there to study rubber and to meet those whose interests centered about it, so perhaps I was living up to my opportunities after all.

I knew that Ridderkerk was quite close to Rotterdam, but the effort to find out just how one gets there was rendered unnecessary by my friend Mr. Musly, who looked me up one morning, led me to a fine river craft and we steamed up the Maas for a 30 minute run to Ridderkerk village. We went through the flax country and passed many quaint Dutch villages, each of which had some specific industry, such as the building of river craft, for example, lines of business that are handed down from father to son and employ families that live in a sort of feudal state, thrifty, conservative, wealthy. Incidentally, I got a new reason for wearing wooden shoes. Of course, only the working class use them, and they tell me that the willow wood of which they are made is a specific for rheumatism. How true this is, I do not know, but personally I should have to get very acute twinges before adopting them.

Landing at Ridderkerk we took a carriage and drove along the top of a dike, by dog teams, and horse teams, running, as I

thought, perilously close to the unprotected edge, but arriving safely. The factory which we visited bears the title "Nederlandsche Caoutchouc en Gutta Percha Fabriek 'St. Joris', Bakker & Zoon." The buildings are of brick, the floors of cement, and the whole equipment excellent. The washers, refiners, mixers, tubing machines, vulcanizers and presses are of the character found in most of the mechanical goods factories. Much of the machinery was made in a large machine shop quite near there, owned by a brother of the rubber manufacturer.

On entering the office I was introduced to Mr. Bakker, and as he left us alone for a moment I said to Mr. Musly:

"Where is Zoon?"

"That is he," was the reply, "whom I just introduced you to."

"I thought you said his name was Bakker?"

"It is," said Mr. Musly, light breaking over his countenance. "Zoon means son. The original firm was Bakker & Son; the senior is dead and Mr. Bakker, Jr., owns the business."

The company was started in 1879, and has a reputation for fine goods. The Bakker bicycle tires, for example, are noted for their lasting qualities—indeed some of them seem never to wear out. In addition to tires the company makes horseshoe pads, mats and treads, billiard cushions, a line of asbestos packings and solid tires.

Amsterdam is noted as being the richest, most exclusive, and so say its citizens, the cleanest and altogether the most beautiful of the cities in Holland. From a rubber standpoint it is interesting as being the location of the Amsterdam Caoutchouc-Fabriek V/h Pompe & Co. Their factory is situated on the water front and dates back to 1886 when it was started by Dr. D. de Bau, Mr. H. L. Bynink, and Mr. J. Pompe. These gentlemen were respectively a lawyer, a teacher, and a civil engineer. The first of the three died in 1902, the second now lives in Zeist and occupies himself chiefly with the administration of certain public works, while Mr. Pompe, although still much interested in the company, is a resident of Belgium.

The works have been enlarged a number of times and are now exceedingly well equipped for the manufacture of general mechanical goods, particularly a new type of floor tiling of their own invention. They make a specialty also of revolving rubber heels for such markets as Belgium, and regular heels for consumption in their country.

Those who deal in balata will recognize the name of Mr. J. G. Von Hemert, who has large interests in Dutch Guiana and handles much balata. It is also gossiped that when in the Guianas he acquired some exceedingly valuable gold properties which have been a constant source of revenue.



SCHEVENINGEN ON NORTH SEA, NEAR THE HAGUE.

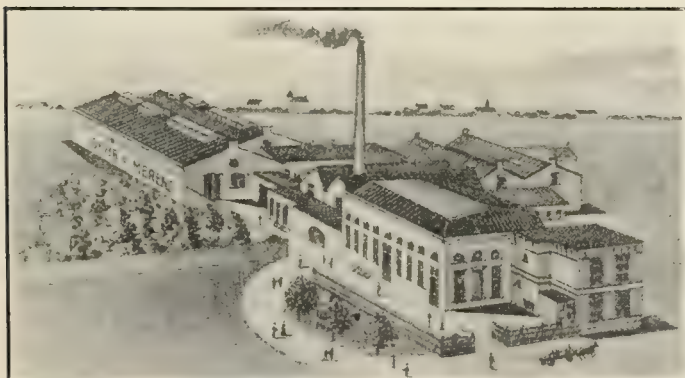


COLONIAL MUSEUM AT HAARLEM

The oldest rubber factory in Holland is situated in the ancient city of Haarlem. It is, indeed, one of the old rubber factories of the world, and dates back to 1828, when Jan Van Geuns, an apothecary, erected a small brick building to manufacture rubber catheters and other surgical specialties in soft rubber, which he had made in a small way for some time. As he had no steam engine or windmill he built a treadmill which was operated by donkeys, or as Mr. Merens expressed it: "The mill was run by



ORIGINAL FACTORY OF MERENS BROTHERS.
[Built by Jan Van Geuns.]



RUBBER FACTORY OF MERENS BROTHERS.



BAKKER & ZOON, 1879.



RUBBER FACTORY OF BAKKER & ZOON, 1908.



RUBBER FACTORY OF POMPE & CO.

asses"—not an impossible happening in any country or any time.

Van Geuns must have been something of a chemist and very much of a genius. There are those who believe he discovered sulphur vulcanization at just about the time that Goodyear and Hancock made the discovery. Certain it is that in 1842 he sold hose made of rubber that he guaranteed would not grow hard in the winter nor soft in the summer. The circulars describing this hose are still in existence, and point very strongly to a knowledge of sulphur vulcanization. Van Geuns died somewhere in the '70's and the business was purchased by Merens Brothers in 1876. They kept the original solidly built two story brick factory that the creator of the business has erected, but grouped around it modern factory buildings.

Knowing much of this history it was with more than usual interest that I descended from the train early one morning, sought a cab driver and said to him "Caoutchouc Fabriek Gebröders Merens" and rattled away over the cobble paved streets behind a heavy Belgian horse toward the manufacturing end of the city. These Dutch cabmen are apparently very stolid but they are certainly good drivers. This one proved it, when on a narrow street, one side of which was a broad canal with not even a two inch curb between the roadway and the water, he discovered he had taken the wrong road and calmly turned around, the wheels seemingly coming within an inch of the edge, while he acted as if he had room to spare.

Arriving at the factory, we were most cordially received by the



ROYAL CEMENT WORKS AT ROTTERDAM.



THE LATE B. BAKKER, SR.

[Founder of the firm of Bakker & Zoon, rubber manufacturers.]



DR. A. G. N. SWART.

[President Netherlands Commission at the Olympia Rubber Exhibition.]



THE LATE JULIUS WEISE.

[Founder of the crude rubber firm of Weise & Co.]

senior Merens, his son and nephew. They took us through the factory, which was exceedingly well equipped for the manufacture of the smaller lines of rubber goods, such as general mold work, jar rings, pads and molded articles in semi-hard rubber. The most bulky of the goods manufactured were asbestos packings, deckle straps and garden hose in continuous lengths averaging 700 feet to the length. This hose was apparently made on the mandrel somewhat as regular $\frac{3}{4}$ garden hose is made. There was a smooth inner tube covered with plies of friction cloth cut on the bias and an outer cover and the hose was cloth wrapped and steam vulcanized. If it was made in short lengths and the ends butted and joined after semi-vulcanization, it was so done as to defy detection, and if it wasn't done that way a new and simple process in hose making had been evolved.

On the subject of just how they manufactured this hose, Mr. Merens was silent. He was justly proud of the product and perfectly willing to have any one examine it and describe it but as to how it was done, they must do their own guessing. This hose, by the way, was exceptionally strong, the fabric being woven from a mixture of cotton and linen.

The mechanical equipment of the factory was such as one would

find in any mechanical factory employing from 50 to 100 men. The washers, grinders, tubing machines, vulcanizers, spreaders and the two-rolled calender were products of French, Dutch and English machine shops, and while none of the machines were of the "Jumbo" type, they were all well fitted for the work to which they were put.

I was much interested in the old building which dated back to the beginning of things in rubber. It was built of small hand made bricks set in mortar that had turned as hard as flint. With its low ceilings, heavy beams and queer half circle windows, it seemed a modest, yet solid monument to one of the real pioneers in the business and one that would probably remain standing when greater and more modern factories had crumbled to dust.

The factory fronts on one of the great canals, so that freights of all sorts, to and from, are exceedingly cheap and the business is evidently prosperous. The workmen looked intelligent and had somewhat the air of old retainers who were proud of their employers and the feeling seemed to be reciprocal, as shown when one of the partners called attention to a youngster in the office who, he said, spent an hour each evening studying English.

After inspecting the factory, we lunched at Die Kroon, opposite



BAKKER & ZOON'S DREDGING SLEEVES.

[Length 64 inches; diameter 21 inches.]



BAKKER & ZOON'S SUCTION HOSE.

[Length, 17 feet 2 inches; diameter, 1 1/2 inches.]

the old Market House, and in sight of the great cathedral and the statue of Laurens Janszoon Coster, whom the Dutch claim as the inventor of printing. Whether it were he or Gutenberg, it isn't in my province to decide. At any rate in the old Haarlem Town Hall, surrounded by portraits of florid burgomeisters, some of them priceless, there are ancient models of Coster's presses, so perhaps he was No. 1 in the art that made publishing possible.

To digress a moment from the very interesting scenes and say a word about the Dutch language: everywhere were signs and very

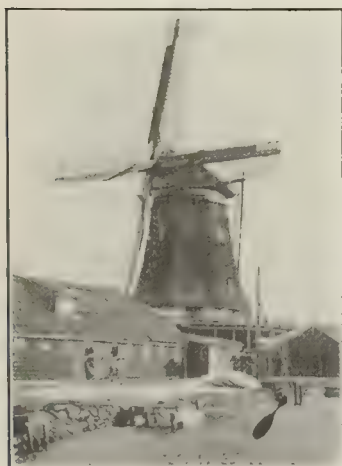


BAKKER & ZON'S HORSE POLO BALL.

soon most of them were readable to any one who knew English with a slight smattering of German. For example—"Zunlight Zeep" on a flaming advertisement could mean nothing else but "Sunlight Soap"; "verboden" wherever encountered meant "forbidden". Then too, we soon learned that the custom of putting a *j* after the *i* in so many words indicated that *i* was long and the *j* not sounded. Of the surnames on street signs were many that were very pleasantly familiar; such names as Vermeule and Van Vliet were in evidence and made one feel at home.

After a ride through the residence section of the city, where are many elegant houses, we put in the rest of the afternoon visiting the Colonial Museum, which has perhaps the most complete collection of industrial products in existence. The Dutch colonies are of course very thoroughly represented. There are models of native houses, boats and canoes, wonderful collections of arms, ornaments, head dresses and native tools, and thousands of specimens of woods from all over the world. There are herbaria filled with strange and rare plants, hundreds of jars of grains, seeds, and nuts used for food, and in one large room devoted to india-rubber there is perhaps the best collection of gutta-percha, balata and East Indian rubbers that can be found anywhere.

It was almost nightfall when we reluctantly left this most interesting symposium of Dutch progress and bidding good-bye to our friend Merens, who had acted as guide and explainer all the afternoon, caught our train and returned to Rotterdam.



A DUTCH WINDMILL.

noon, caught our train and returned to Rotterdam.

CRUDE RUBBER INTERESTS.

ECHO OF A FRAUD IN RUBBER.

A CIRCULAR issued in connection with the affairs of The Brazilian Rubber Plantation and Estates, Limited, an English company in course of liquidation by the official receiver [see THE INDIA RUBBER WORLD, August 1, 1908—page 364], asks the shareholders to sign a petition for a court order staying the liquidation until a shareholders' meeting can be held. It is proposed to reduce the nominal capital from £180,000 to £60,000, of which the present holdings will represent £50,000, with £10,000 to be found by the directors and their friends. Of the latter it is estimated that creditors would absorb £5,000, and £5,000 could be devoted to working capital. The circular asserts that "the area of the property [in the State of Ceará] has undoubtedly been overstated, but that rubber is there in abundance cannot be doubted." The company was registered January 31, 1906.

A RUBBER COMPANY TO HUNT GOLD.

At a special meeting of shareholders of the Inambari Pará-Rubber Estates, Limited (London, November 10), the chairman, Sir Martin Conway, spoke at length of the gold prospects in the Inambari river region which will be opened up by the completion of the road which the company are building as one of the conditions of their rubber concession. He proposed, and it was voted, that the rubber company subscribe £20,000 to the capital of a £100,000 company to be formed under the name Inambari Gold Dredging Concessions, Limited.

RUBBER IN PORTUGUESE EAST AFRICA.

THE annual report of the Companhia de Moçambique for the year 1907, which on the whole makes a favorable showing, refers with satisfaction to the company's trading in rubber. The collections reached 19,760 kilograms [43,472 pounds], which was sold in London and Hamburg for £7,400, to use round numbers. The highest price realized was 4 shillings per pound. The net profit was upward of 47 per cent., or about £3,520. This would figure out at 40 cents (gold) per pound. The rubber came mostly from wild *Landolphia* creepers, and a small amount from cultivated Ceará. The *Mascarenhasia elastica* has been found on their concession and yields good rubber. Its cultivation is proposed. [See THE INDIA RUBBER WORLD, May 1, 1906—page 265.]

RUBBER IN PORTUGUESE WEST AFRICA.

A GROUP of Belgian capitalists, it is reported, will exploit the rich rubber supplies of Lunda district, in Angola (Portuguese West Africa), the development of which has been retarded by the lack of local capital. The territory mentioned adjoins the Congo Free State; all shipments are to be made through the port of Loanda, which is within the Portuguese sphere.

LARGE RUBBER ARRIVALS AT NEW YORK.

ON Thursday, December 3, 57 invoices of crude india-rubber were passed in the first division of the customs appraiser's warehouse at New York. The net value of the merchandise was \$2,172,964.35. These are official figures furnished by William S. Harris, examiner of rubber in the United States public stores.

BRIEF MENTION.

M. AUGUSTE CHEVALIER, of France, well known for his scientific explorations in West Africa, which have contributed so much to the world's knowledge of the rubber species in that region, was lately reported to be about to start on another mission of the kind, on behalf of the French government, to last for two years or more.

The imposition of a tax of 2 pence per pound on all rubber exported from Madagascar has lessened materially the collection of the low class rubber found in the west of the island. The total exports of rubber during 1907 were 972,391 kilograms, worth 5,242,637 francs, against 1,267,203 kilograms in 1906, worth 7,537,946 francs.

Yield of Wild and Planted "Para" Rubber.

WHAT is the yield of a rubber tree? Simple as the question may appear—and it is asked incessantly—giving an intelligent answer to it is by no means simple. One must consider what variety of rubber is involved, where the tree grows, whether "wild" or cultivated, and, if the latter, the conditions under which planted. A remark may be recalled here from a report by a former British consul at Pará writing of native *Heveas* in the Amazon region: "Two trees growing close together and under apparently precisely similar conditions will often vary very much as regards their yield."

There is no question that rubber trees do yield, else what would become of the rubber market? On one day during the past month the customs authorities at New York reported the arrival of rubber of an invoice value exceeding \$2,000,000. The custom house at Pará dealt last year with 80,638,800 pounds, and some years the figures have been larger. Besides, the Amazon region doesn't supply all the rubber used. We hear over and over again that the Brazilian rubber is derived from trees scattered in dense forests, and that the native tappers gain a very small amount of latex from each day's tapping. But the Pará shipments argue either a tremendous number of wild rubber trees or a very considerable average annual yield per tree.

Since it must be admitted that trees do yield rubber, the question remains, how much? This subject, as relating to forest rubber, has been treated at some length in former numbers of THE INDIA RUBBER WORLD, including quotations from Mr. Vice Consul Temple, who once reported having had access to the books of some operators in the Brazilian field, indicating an average yield of 2.2 to 3.3 pounds yearly per tree. He was of the opinion, however, that very many trees were being worked with no larger average yield than 1.1 pounds. His report, however, had to do only with the state of Pará, where the rubber fields have been worked longer and more thoroughly than in the up-river regions. It does not seem to have occurred to the Amazon rubber trade to consider the yield of individual trees so long as total results are satisfactory. But chance details which have come to hand from time to time point to the probability of a yield of 4 to 10 pounds yearly per tree, varying with the degree to which *estradas* have been "worked out."

With the coming of cultivated rubber, on plantations owned by capitalists and with shares listed on stock exchanges, the question of yields becomes of particular interest in connection with the analysis of company reports. If one tree will afford a given quantity of rubber, will 1,000 give a thousand fold? In considering any of the figures which follow—all relating to the yield of plantation Pará (*Hevea*) in the Far East—it must be remembered that such yields may be influenced—

By the character of the soil, altitude, or climatic conditions;

By the closeness or width of the planting;

By the frequency of tapping;

By the method of tapping;

By the care with which the latex is handled.

Trees with short trunks of large girth may be more productive than taller ones of less girth. The commencement of tapping is determined by the size of the trees rather than their age, and all trees do not grow at the same rate. It may be pointed out that even in the most detailed rubber plantation reports up to date statements of yield, as a rule, include in one total the produce of mature trees tapped throughout the year and that of trees just come "into bearing," which may have been tapped once or twice only.

It would be desirable to have, from each of several well managed plantations, a record of the yield of a definite number of rubber trees, of uniform size and age, tapped the same number of

times in a year, by the same system, and with the same method of treating the latex. It is not wholly satisfying to have included in one total a large tree yielding 5 pounds or more and a smaller tree from which ½ pound or less has been obtained. In default of such figures the following details have been culled from the sources most available.

In the latest edition of his "Hevea Brasiliensis" Mr. Herbert Wright has compiled a lot of data on the yields reported from rubber estates, though without any effort to establish any rule as to yields as related to the age of the trees tapped. From one of his tables we have taken 23 items, referring to as many properties, on which, in 1905, 166,740 trees yielded 215,933 pounds of rubber, or 1,235 pounds per tree. The average per tree on one estate was as low as .32 pound; the largest reported for any one was 5.5 pounds per tree. A list of 16 of those properties shows an average yield per tree of 1.351 pounds. Six estates showed averages per tree of 2 pounds, 2.2, 3.2, 3.25, 3.5, and 5.5 respectively.

From another table in Mr. Wright's book a list has been compiled of 8 estates, on which 79,631 trees, in 1906, yielded 200,220 pounds of rubber—an average of 2.52 pounds. The average per tree on the various estates was 2.03 pounds, 2.37, 2.46, 2.75, 2.79, 2.88, 3, and 7.1 pounds respectively.

A particularly interesting item appears in the report of the Anglo-Malay Rubber Co., Limited, for the calendar year 1907. On their Terentang estate 28,043 *Hevea* trees, aged 7-8 years, are stated to have yielded 105,655 pounds of dry rubber, or an average of 3.76 pounds per tree. On their Ayer Angat estate, however, 14,540 older trees (9-10 years) yielded only 42,970 pounds, or an average of 2.95 pounds. On the other hand, 5,440 trees on their Batang Bali estate mostly only 6-7 years, though a few were 9-10, gave 18,112 pounds, or an average of 3.32. The total tapping for 1907, on these and another estate, covered 68,236 trees, yielding 224,778 pounds, or 3.29 average.

An attempt has been made by the writer to analyze the ages of the *Hevea* trees tapped during three years by the Bukit Rajah Rubber Co., Limited. Taking account of the approximate ages of their trees, so far as can be gathered from the company's various reports, and their definite statements of the number of trees tapped and their yield, these results appear:

Year ending March 31, 1906.—Trees tapped, 34,457; yield, 33,203 pounds; average age of trees at end of period, 6.23 years; average yield per tree, .97 pound.

Year ending March 31, 1907.—Trees tapped, 88,341; yield, 118,982 pounds; average age of trees, 5.94 years; average yield, 1.345 pounds.

Year ending March 31, 1908.—Trees tapped, 89,295; yield, 163,521 pounds; average age of trees, 7.27 years; average yield, 1.83 pounds.

Some very definite information is given in the report of the Highlands and Lowlands Pará Rubber Co., Limited, for 1906. It is stated that on one block of 16 acres 807 *Hevea* trees, 9 years old, planted 30x25 feet, were tapped during three periods of the year mentioned, with these results: 2,500 pounds at the first, 1,469 at the second, and 1,773 at the third, or a total of 5,742 pounds—an average of 7.01 pounds per tree for the year.

During the business year 1906-7 the Federated Malay States Rubber Co., Limited, collected 32,175 pounds of rubber from 12,335 trees, wide planting—averaging 2.60 pounds.

It may be added that the total production of plantation rubber in the Federated Malay States for 1906 was 861,738 pounds, from 441,482 trees, of varying ages, or an average of 1.95 pounds per tree.

From all the preceding data it would appear safe to estimate not less than 2 pounds annually from trees, say 8 years old, with

reason to expect an increased yield with greater age. But much larger yields, in exceptional cases, have been authenticated. Eleven-year-old trees on Culloden estate, specially tapped, gave 14 pounds of rubber from 8 months' tapping, and trees of unknown age (probably 20 to 25 years), from 10 to 25 pounds each in one year.

So far the maximum capacity of a cultivated *Hevea* would seem unsettled; meanwhile the conditions for a liberal production have not been agreed upon. A recent writer mentions five neighboring rubber plantations in Ceylon, on which were employed an equal number of tapping processes, each strongly defended by the plantation manager using it.

NOTES ON RECENT YIELDS.

KUALA Lumpur Rubber Co., Limited, in the year ended June 30 gained 79,274 pounds of rubber from 39,543 trees (age not stated), or a fraction over 2 pounds per tree. This year more trees are being tapped, with the result that the four months ended October 31 yielded 60,740 pounds. The company's last consignment of rubber to Antwerp was sold on November 19 at an average of 5s. 6¾d. [= \$1.35 1/3] per pound. The latest Kuala Lumpur report refers to an average of more than 6 pounds per tree having been obtained from something over 10,000 trees on the neighboring and older estates of the Federated Malay States Rubber Co., Limited, which are under the care of the same manager, Mr. E. B. Skinner.

Sumatra Pará Rubber Plantations, Limited, in their first report, mention the collection of 62,700 pounds in 15 months, or an average of 3 pounds per tree, young and old. The rubber realized 3s. 4½d. [= 82.1 cents] in London, after paying charges. The cost on the plantation is figured at 1s. 1.87d. [= 28 1/3 cents] per pound.

RUBBER PLANTATION YIELDS (IN POUNDS).

	1907.	1908.
<i>Vallambrosa Rubber Co.:</i>		
Eight months to November 30.....	144,584	169,731
<i>Kuala Lumpur Rubber Co.:</i>		
Twelve months to June 30.....	251,998	78,274
[a—Fifteen months.]		
<i>Perak Rubber Plantations:</i>		
Nine months to November 30.....	22,670	36,534
<i>Yatiantota Ceylon Tea Co.:</i>		
Six months to June 30.....	3,077	4,354
<i>Sumatra Pará Rubber Plantations:</i>		
Fifteen months to June 30.....		62,700
<i>Pataling Rubber Estates Syndicate:</i>		
Seven months to July 31.....	37,752	40,035
<i>Federated (Selangor) Rubber Co.:</i>		
Four months to July 31.....	5,658	15,785
<i>Anglo-Malay Rubber Co.:</i>		
Eleven months to November 30.....	196,109	312,050
<i>Seremban Estate Rubber Co.:</i>		
Eight months to September 30.....	79,167	100,418
<i>Perak Rubber Plantations:</i>		
Eleven months to November 30.....	22,670	36,534
<i>P. P. K. (Ceylon) Rubber Estates:</i>		
Ten months to October 31.....	10,448	22,212
<i>Lanadron Rubber Estates:</i>		
Eleven months to November 30.....	88,439	165,056

SOME YIELDS IN NOVEMBER.

	1907.	1908.
Anglo-Malay Rubber Co.....	22,450	34,062
Lanadron Rubber Estates.....	7,500	17,508
Perak Rubber Plantations.....	4,542	7,442
Sumatra Pará Rubber Plantations.....	3,250	5,940

THE DISCOVERER OF GUAYULE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In some notes on "Guayule in the United States" in your issue for November 1 (page 58) reference is made to the official report—on behalf of this country—on the boundary between the United States and Mexico, in which monumental work occurs the first scientific reference to what is now so widely known as the

"guayule" rubber plant. A little history of this survey may not be without interest.

The Mexican boundary survey was created by act of the United States congress to carry out the provisions of the treaty of Guadalupe. Its duties were to determine the dividing line between Mexico and the United States; to trace the Colorado; to examine into the mineral and agricultural resources, and to gain information concerning the natural history of the localities explored. The party consisted of about a hundred persons, including surveyors, scientists, artisans, and laborers.

John Milton Bigelow, the original collector of guayule, was born in Vermont in 1804, educated a physician, practised medicine in Lancaster, Ohio; served as surgeon and botanist in the Mexican boundary and Pacific railroad surveys, and occupied the chair of *materia medica* in the Michigan Medical College. He was the author of "Medicinal Plants of Ohio" and numerous articles on *materia medica*, and died in Detroit, Michigan, in 1878.

Bigelow should have more credit for the discovery of guayule. Our sympathies go out to this intrepid collector. The writer has looked for guayule in the same section but under present conveniences and did not succeed. Bigelow's original location was "Escondido creek," which place is not given on recent maps of Texas. Havard gives Rio Escondido as a stream flowing into the Rio Grande from the Mexican side, three miles below Eagle Pass. Havard, however, does not give guayule on his list of plants.

The writer examined this locality in 1901 and again in 1907, but was unable to locate the shrub. Judging from the character of the flora I infer that this location is outside of the guayule belt.

Concerning the location of Escondido creek Mr. J. T. Robinson, acting land commissioner, Austin, Texas, writes: "The word 'Escondido' is frequently used for the name of small creeks in the southwestern part of Texas. The largest of these in the guayule belt of the country is situated in Pecos county and flows northward into the Pecos river."

Dr. Asa Gray in his later description of the plant (*Synoptical Flora of the United States—Volume Composita*) says: "Found on southwestern borders of Texas (Bigelow) and adjacent Mexico (Parry and Palmer). The plant contains gum or resin in Mexico."

The proceedings of the boundary commission were marked by bitter quarrels between the commissioner and his subordinates. Charges and counter charges alleging drunkenness and graft were freely made. The quality of the rations formed a source of complaint from the men. Employés were unable to draw their pay on account of lack of funds. One man, the assistant quartermaster, was murdered by outlaws (first appearance of the "southwestern bad man") near El Paso.

That considerable anxiety was shown in the expected aridity of the line of march is evinced by the fact that the original order for supplies called for "10 barrels of whiskey, 60 gallons of brandy, 100 gallons of claret, 60 gallons of sherry, 30 gallons of port, and 40 gallons of fine assorted wine in bottles."

With such a layout we wonder that they did not report more guayule. We also begin to doubt the authenticity of those beautiful, highly colored pictures of birds and reptiles.

CHARLES P. FOX.

Akron, Ohio, December 9, 1908.

THE recently formed German asbestos syndicate is stated to be conducting negotiations for the purchase of the various asbestos mines situated in the Ural mountains region of Russia, the output of which has risen within ten years past from 101,638 poods to 571,994 poods [=20,571,786 pounds].

An international aeronautical exhibition is to be held this year at Munich, comprising nine sections, covering the whole field of balloon making and its accessories, flying machines in the different stages of their development, and in general the subject of the control of aerial vehicles in flight.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

THE great cotton strike which lasted for seven weeks and led to the closing down of 400 mills, came to an end on November 6, largely owing to the good offices of the mayors of Darwen and Salford, the latter, Alderman Frankenburg, being a well known rubber manufacturer. There

THE LANCASHIRE COTTON TRADE.

has been some giving way on both sides, but the masters have got the 5 per cent. reduction in wages, only this does not take effect until March 1, instead of at once. The cessation of the strike is of course a good thing for many besides the operatives immediately concerned, but it must not be assumed that the prevalent depression in trade, and more particularly in the cotton trade, is likely to show any rapid improvement. The world is still replete with goods manufactured at high prices during the past boom, and in all probability the mills will continue to run on short time as was the case before the strike. The rubber works are of course large buyers of cotton cloth and prices have been recently in their favor; their trade interest in the strike has reference to the sale of the various mechanical rubber goods used by the cotton mills and associated industries, and salesmen will be glad that an exceptionally slack period has come to an end. An important matter which is against the staple Lancashire industry at the moment is the very low silver exchange, curtailing the demand from the great Eastern markets of China and India, on which Lancashire so largely depends. Mr. Frankenburg, who has been mayor of Salford for three years in succession, has now retired from that position, which he has admittedly filled with credit and distinction. Under the heading "The Cotton Goods Market" in the November issue of THE INDIA RUBBER WORLD, I read that the position betokens a supply of cotton unequal to the demand. At the moment, looking at the position of the Manchester trade—worse, experts say, than it has been for 40 years—it is rather difficult to accept the statement, as regards American cotton at all events.

THE address given at the recent Rubber Exhibition at Olympia by Dr. P. Schidrowitz on the relations between the manufacturer and the consumer, raises one or two questions which seem to call for consideration, and this quite outside the

TRADE SECRETS AND AUTHORS.

strict subject matter of the lecture. The author has of late years given a good deal of attention to rubber analysis and has no doubt gone to considerable expense in fitting up his experimental laboratory. Now I may be wrong, but I am presuming that his actions are not primarily based on Benthamist motives, though he may to some extent have the interests of the trade at heart. It strikes me, in view of the secretiveness displayed by the works chemist as regards experimental work and analysis, that Dr. Schidrowitz is giving away rather too much to those who will give nothing in return for the information and help. Any methods for physical testing, which he may devise or elaborate, will be examined and taken over as a free gift by others who will utilize them to advantage. I remember that Dr. Weber was always inveighing against what he called the miserable policy of secrecy and silence adopted by the chemists of our large rubber works; they read what was published with avidity and contributed nothing to contemporary literature. Of course with regard to this point of publication one has to remember that the consulting chemist is his own master and the works chemist is not. The latter has his policy dictated to him and it is a safe assumption that in the majority of cases he is requested to abstain from appearing in print or on the platform. Dr. Weber had many a hit at rubber trade secrets, but although there may not be many of real value now existent, still there is a good

deal about works procedure which individual firms conceive it to be their interest to keep to themselves and no one will blame their conservatism. It is particularly noticeable that in the course of his paper Dr. Schidrowitz hauled himself up once or twice somewhat abruptly when he came to points which had come before him in his consultative capacity and which he was not at liberty to enlarge upon. The rubber trade, it seems to me, will continue to show aloofness among its individual members, and although there are outside enthusiasts who think that manufacturers should meet and discuss matters on the lines of the Iron and Steel Institute or newly formed Institute of Metal, I don't see much chance of the suggestion coming to fruition. Dr. Obach published his work on Gutta-percha when he was with Messrs. Siemens, but I cannot call to mind anything else in the way of a book coming from the inner recesses of any of our rubber factories. The tendency has been in the other direction.

THE interesting article which appeared under this title from the pen of Mr. Ira W. Henry in THE INDIA RUBBER WORLD for

GROWTH OF THE INSULATED WIRE INDUSTRY.

October suggests one or two remarks by way of comparison with this country. The reference made to existing specifications of various authorities for rubber insulation indicate a state of affairs not yet reached in this country. Certainly the various types of insulated wires, especially in the case of flexibles, are standardized in this country. Moreover, we have a Cable Makers' Association, the members of which guarantee that all wires bearing the union label are of first-class quality. There is not, however, any agreement among the manufacturers as to the precise mixing to be employed. If I read Mr. Henry's article right the Americans are bound to work to a standard of 40 or other percentage of Pará, the reference to the admixture of dry mineral water is presumably an error. There may be some rigid specifications of the sort in existence here, but in the bulk of work the firms turning out union or best quality cables have their own mixings. What the buyers do not altogether approve of in the present situation is the practical agreement as to price, and in one case at any rate an order has gone out of the country as the quotations obtained from various firms were exactly the same. In other cases surprise has been expressed at the close approximation of prices where the insulations differed considerably in value. Mr. Henry refers to the chemical testing which is in vogue in America; in the interests of fair trading it is to be hoped that this is punctiliously carried out. With regard to the prospective increase in the use of rubber insulation, I think that mining purposes might have been included. The demand for flexibles and other small diameter cables will assuredly increase largely, but the bare conductor system for modern high voltages will continue to displace rubber in one of its former important applications. Rubber insulation is referred to as being largely used by the telephone companies. In this country rubber and gutta-percha have been largely displaced by paper insulation, the strands being carried in a lead tube, the air in which is kept dry by sulphuric acid. It certainly seems rather anomalous that old rubber insulation should continue to be burnt off the wires in the present year of grace. I would not go so far as to say that none of it is ever recovered. A good deal has been recovered by hand labor in England, and at least one special machine has been built to do the work and has given satisfactory results.

At the meeting held in London on November 27 a dividend of 100 per cent. was declared—the same as last year—and this

THE DUNLOP RUBBER CO.

despite the somewhat adverse conditions experienced in the motor and cycle trades. The particular trading condi-

tions which this rubber company enjoys owing to its very intimate connection with the Dunlop Tyre company have been referred to on former occasions, and there is no need for repetition, though of course the public who only see the general announcement of the dividend in the newspapers—and it is pretty well advertised—are apt to jump to the conclusion that rubber manufacturers generally are making an exceedingly good thing out of their business. The chairman, Mr. Harvey du Cros, made special reference to the fact that they had overcome various difficulties experienced in the manufacture of omnibus tires, after having lost a good deal of money in their primary efforts in this direction.

THE profits announced by this important company as the result of its first year's incorporation amounted to £63,411, which is very near the £65,000 mentioned in the prospectus. A dividend of 4 per cent. is declared on the ordinary shares, and £15,000 is written off the good will which figured rather prominently in the prospectus. As regards the balata belting business the company seem to be holding their own, but having regard to the large competition which has now arisen, especially in the cheaper qualities of belting, I shall be surprised if the Glasgow works make any further great strides in this part of their business. Indeed, they may possibly find it necessary to adopt the somewhat lavish advertising tactics which have brought the new competitors' goods before a wide public.

THE following advertisement recently appeared in the *Journal* of the Society of Chemical Industry:

**SYNTHETIC
RUBBER.**

WANTED.—Inorganic chemist, having own laboratory, experienced to work with gas, wanted to demonstrate a synthetic rubber process. Chance for life situation. Apply to Motors and Accessories, Limited, 1 Southampton row, London, W. C.

This advertisement struck me as interesting, though my curiosity did not go to the extent of applying for the life situation. I am wondering whether it has anything to do with Heine-mann's patent of October 2, 1907. This reads: "A mixture of acetylene and ethylene is heated at a dull red heat and the resulting divinyl converted into methyl divinyl or isoprene by the action of methyl chloride. Caoutchouc condensed from the isoprene thus obtained is equal in every way to the natural product." Well, perhaps it may be, and the patent deals with a scientific process of great interest. It is, however, of no novelty to prove that rubber can be prepared by chemical experts in a well appointed laboratory. What would be novel is a proof that it can be made at a price to enable it to compete with the natural product. This is where the stumbling block comes in and I don't see how it is to be easily removed. The search for synthetic rubber is by no means confined to those who are ignorant of the rubber manufacture and its associations because continuous work in this direction is being carried on in the research laboratory of the Continental works at Hanover. In other quarters, however, the mistaken enthusiast and the rogue have been largely to the fore in connection with the business, and each have found supporters of sufficient credulity to advance funds for experimental work.

WITH regard to the inferiority or otherwise of plantation Pará rubber compared with the ordinary Brazilian product some mild recrimination has been going on between experts in the columns of *The India-Rubber Journal*. I think that I am right in saying that the present position is this: By the employment of certain picked brands of rubber on a small scale it may no doubt have been shown that even for the most important application no perceptible difference is discernible—that is, as far as judgment can be made without the test of time. On the other hand there is so much variation in the rubber marketed by different plantations that manufacturers not unnaturally are indisposed to use large quantities for any particular best purpose. At present it seems impossible to buy a five-ton lot without finding considerable variations in the quality or at any rate

variations which are not met with in the case of Brazilian Pará. For commoner purposes this matter is not of great importance and the advantage of being able to use crêpe rubber straight off without any washing is appreciated in certain branches of the trade. By the way, I hear of rubber being offered as crêpe and at similar prices though it was merely a wild rubber of a resinous nature prepared in the form of Ceylon crêpe. It may possibly have been offered upon its merits, but judging from what I was told an intention to deceive the buyer was not improbable.

DR. JOSEPH TORREY.

THE practical thinking chemist in the rubber mill is sure to rise, particularly if he has business ability. What inspired this thought was the fact that Dr. Joseph Torrey, who began



JOSEPH TORREY, PH.D.

as a rubber chemist, is to-day not only chemist but superintendent and director of a prosperous rubber company. Dr. Torrey was born in East Hardwick, Vermont, in 1862. He graduated at Bowdoin College in 1884 and was assistant in chemistry at Lafayette College for one year, then professor of chemistry at Iowa College for five years. He went to Harvard College on the Morgan fellowship in 1890, but soon resigned it to take an assistant professor-

ship. He was made a Ph. D. in 1896. In 1900 he went to Akron, Ohio, as chemist of The Diamond Rubber Co., to which was subsequently added the superintendency of the reclaiming department. In 1902 he went to Liverpool as consultant for the Northwestern Rubber Co., Limited, and was made general superintendent in 1903, and subsequently put upon the board of directors. Personally, Dr. Torrey is a quiet, studious, modest gentleman, deeply interested in rubber problems and usually right in his conclusions.

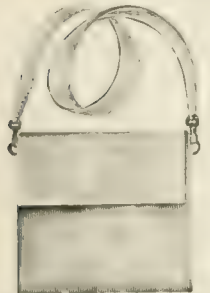
THE Anchor Cable Co., Limited, have made a debenture issue of £50,000 [= \$243,325], at 4½ per cent. The company was incorporated in December, 1900, to manufacture electric cables, at Leigh, Lancashire. In 1903 all the issued shares were purchased by Callender's Cable and Construction Co., Limited, since which time the Anchor business has been carried on and financed by the Callender company as a distinct concern. The output is confined to rubber wires and telephone cables. The manufacturing profit in 1907 reached £7,982 16s. 1d. The debenture issue is for the purpose of retiring bankers' loans incident to the reorganization of the Anchor business, and is guaranteed by the Callenders. The approaching acquisition of the British telephone system by the government gives rise to the expectation of important orders for new telephone equipment.

At the recent medical exhibition in London R. M. Howison exhibited American goods of the Seamless Rubber Co., Davol Rubber Co., Faultless Rubber Co., Pennsylvania Rubber Co. and Morgan & Wright.

New Rubber Goods in the Market.

HAWES'S WATERPROOF FISH AND GAME BAG.

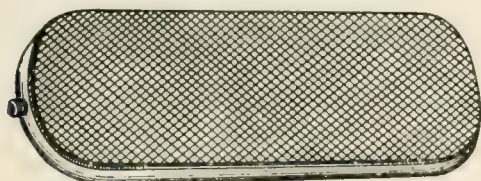
THE self closing waterproof rubber lined bag here illustrated may be worn under the coat or on the outside, and is an ideal trout bag when worn with strap over shoulder. Dead grass color, with an acid-proof rubber lining that can be turned and washed, preventing the soiling or soiling of clothes. It will not bag at the top because of the self closing device; fish cannot get out, and they are kept clean since dust and twigs cannot enter. Made in two sizes—12x12 inches and 9x9 inches—to fit side or back pockets of hunting coat. An extra pocket is attached to the outside for fly book or bait box. It is a very handy and serviceable article. [C. J. Hawes, Cabot, Vermont.]



WATERPROOF GAME BAG.

BUKACEK'S PNEUMATIC CUSHION.

THE object of a recent invention is to provide, for the convenience of persons obliged to stand very much upon a floor or other hard surface, a yielding cushion, and the article illustrated here is novel, simple, and durable in character. The interior is composed of an air tube wrapped into a plurality of convolutions, one surrounding the other, the whole being adapted to



BUKACEK'S PNEUMATIC CUSHION

being inflated through an ordinary air valve. The tube is formed of fabric, rubber lined, and the cushion is completed by the addition of a rubber cover, preferably roughened or checked, to the upper face of the cushion. While an oblong form is illustrated, other forms may be produced. The cushion is designed particularly for bookkeepers and clerks whose work requires them to stand for long periods while at their work. This invention is the subject of United States patent No. 889,756, granted to Joseph S. Bukacek, Riverside, Alabama.

BODLEY'S REVOLVING RUBBER HEELS.

It really appears as if the rubber heel were coming to America to stay and, as usual, we are ahead of the rest of the world in that we have a revolving heel that does its own revolving. The English heels, if we understand them aright, are stationary until they get worn a little, and then the wearer turns them about, presenting a fresh wearing surface. The Bodley revolves as you walk. Not, of course, fast or hard enough to keep one out of the straight and narrow path but just enough to wear evenly. This is, perhaps, because they are made of



BODLEY REVOLVING HEEL.

"live rubber." [Bodley & Co., New Britain, Connecticut.]

"RINGLOCK" NURSING BOTTLE.

THE "Ringlock" nursing bottle embodies an improvement over other bottles by reason of a slight alteration in the shape in the neck and the addition of a metal ring, which renders it practically impossible for the child to pull or roll the nipple off. "Ringlock" bottles are made in both decanter and sterilizer shapes. In each case, a narrow ridge, or band, is raised on the neck, just beneath the lip. A metal ring, slightly larger than this ridge, slides loosely on the neck of the bottle. In operation, the nipple is drawn on in the usual manner, care being taken to pull the nipple well down over the ridge so the roll on the nipple is beneath the ridge, thus making it easy for the wire ring to go up over the nipple, locking it fast, and the metal ring



"RINGLOCK" NURSING BOTTLE.

is then slipped over it, compressing the rubber and locking the nipple fast. The nipple is released by simply slipping back the ring, which then slides down and rests on the shoulder of the bottle. This article has been patented. [Fox, Fultz & Co., No. 18 Blackstone street, Boston.]

THE PORTABLE SHOWER BATH.

SOMETHING new in the way of a bath is shown in the accompanying two cuts illustrating the Portable. Before describing the article it may be pointed out that it can be installed without city water connections or plumbing of any kind; that it can be used in any room in the house, or anywhere else, without the slightest chance of splashing over; that with as little as 3 gallons of water, at whatever temperature may be desired, one can take complete bath, including a shower with clean water from a separate compartment. The reservoir is made of galvanized steel, 21 x 29 inches and 9 inches deep, and divided into two compartments, in the larger of which the bather stands with the supply of water for soaping and shampooing. The smaller holds clean water



PORTABLE SHOWER BATH.



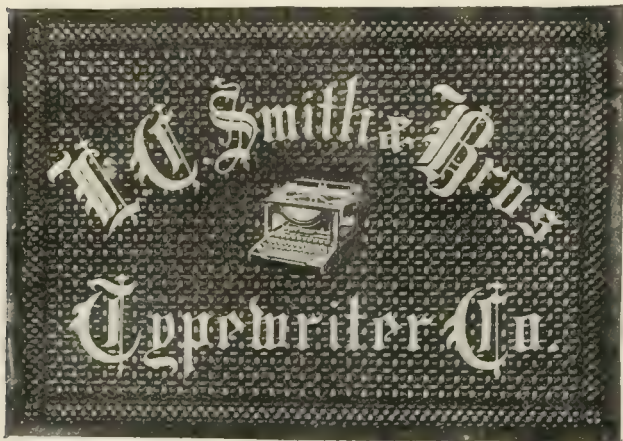
THE BATH FOLDED

for the shower. This permits an improvement over the old method of soaping and scrubbing the body and rinsing in the same water. Instead of standing the bather may, if desired, sit on a stool placed under the curtain. The latter, by the way, is made of surgeons' rubber sheeting, riveted to hard wood rods which are firmly attached to

the reservoir when the apparatus is to be used. The price of the whole outfit is \$12. [The Portable Shower Bath Co., No. 203 South Canal street, Chicago.]

INLAID ART MATTING.

THE illustration accompanying this is not intended to advertise any particular make of typewriter. It is just to draw attention to a complicated design in perforated mats in colors, and con-

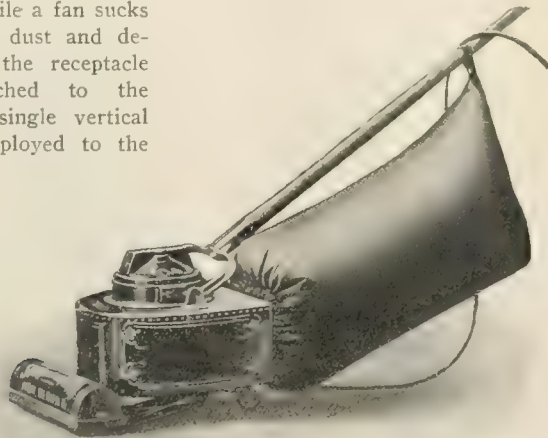


INLAID ART MATTING.

taining from 2500 to 3000 different pieces of rubber, a bit of inlaying that any factory ought to be proud of. The work was done by the Voorhees Rubber Manufacturing Co., Jersey City, New Jersey.

ELECTRIC SUCTION SWEEPER.

THE electric suction sweeper illustrated here is a combined sweeper and vacuum cleaner. The device contains electrically operated brushes which dislodge the dirt clinging to carpets, rugs, etc., while a fan sucks the dirt and dust and deposits it in the receptacle shown attached to the handle. A single vertical motor is employed to the

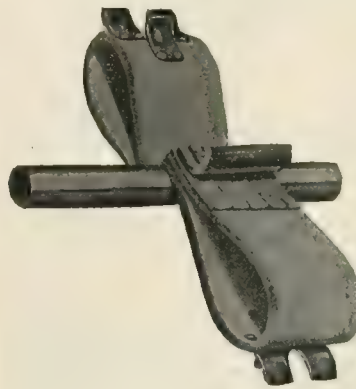


ELECTRIC SUCTION SWEEPER.

shaft of which the fan is attached. The brush revolves at a high rate of speed in the small housing provided for it in front of the fan receptacle and it is driven from the motor shaft through a belt. For removing dust from furniture, walls, and pictures, proper devices are fastened to a hose leading to a suction pan placed under the front of the sweeper when such articles are being cleaned. A blower connection is provided for giving air under pressure in renovating mattresses, pillows, etc. The blower connection is attached to the rear of the sweeper, the dirt receptacle being removed for that purpose. The motor is supplied with electricity through a flexible cord attached to any lamp socket. [Electric Suction Sweeper Co., New Berlin, Connecticut.]

AN ODD USE FOR RUBBER BELTING.

It may not be known to everybody, but in the great packing establishments, that is, meat packing, where thousands of slaughtered animals are handled every hour, there are special machines for special work. For example, in the handling of hogs there is what is known as a dehairing and polishing machine. Its office is to quickly and effectively remove the bristles from the epidermis of a defunct hog and it does it wonderfully as compared with the ordinary scraping by hand or by steel knives. The new idea is the utilization of loops of rubber belting attached to revolving shafts. The carcass of the hog is run through the machine

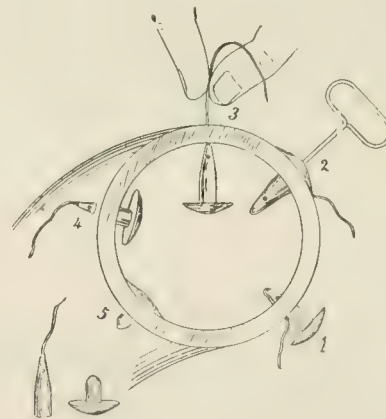


"LOOP BEATER."

that fairly bristles with these loops which beat and scrape every part, thoroughly cleaning it, and with less time and effort than has heretofore ever been expended for this process. Another triumph for rubber! The machine in connection with which the loop beater is used is made by The Allbright-Nell Co., Chicago.

NEAL TIRE REPAIR KIT.

THE accompanying cut represents a plugging kit for motorcycle tire cases. It is claimed that this will economize time and labor in the plugging of punctures and small deep cuts

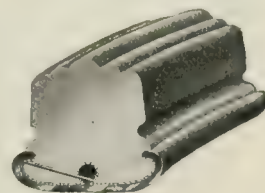


NEAL TIRE REPAIR KIT.

in casings, thereby preventing grit from working in, causing blow-outs and blisters, which would necessarily entail vulcanizing. [F. M. Neal Co., Bridgeport, Connecticut.]

SWINEHART MOTOR BUGGY TIRE.

A NEW motor buggy tire illustrated on this page is designed, by reason of its wide tread to afford greater traction through mud and sand, and overcome a serious objection to high wheeled automobiles. It follows the general design of the regular automobile cushion tire manufactured by the same company, which has been used to compete with pneumatic tires during the last five years. Advantage is claimed for the motor buggy tire on account of its clincher rim, which, it is claimed, prevents water and sand from entering the base of the tire. The large size of the tire also tends to decrease vibration. [The Swinehart Tire and Rubber Co., Akron, Ohio.]



MOTOR BUGGY TIRE.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED NOVEMBER 3, 1908.

- N**O. 902,551. Tire jacket for vehicle wheels. J. Bowie, Omaha, Neb.
 902,552. Name plate and fastener for rubbers. [To indicate "rights" and "lefts."] Sadie N. Fleck, New York city.
 902,544. Connection for inflating tire. W. Boyd, Sabina, Ohio.
 902,683. Hose nozzle carriage and hoisting device. E. J. Petru and J. Zidek, Chicago.
 902,693. Indicating device for use with pneumatic tires. [To indicate punctures.] T. and R. Sloper, Devizes, England.
 902,866. Hose coupling. W. T. De Worth, Bordentown, N. J.
 902,824. Vehicle tire. [Pneumatic.] G. Lambright, Rutherford, N. J., assignor of one-half to F. A. Magowan, New York city.
 902,863. Lawn sprinkler. J. J. Darrow, Asherville, Kan.
 902,891. Rubber securing device. [For overshoes.] H. J. Lozier, Des Moines, Iowa.
 902,926. Vehicle tire. [Solid rubber.] J. A. Swinehart, Akron, Ohio.
 902,969. Waterproof hat protector. Ella A. Kendall, Philadelphia.
 903,043. Hoof pad. D. T. Barber, Gustavus, Ohio.
 903,066. Tire. [Pneumatic with solid tread.] F. A. Ellis, London, England.
 903,098. Vaginal syringe. O. Katzenberger, San Antonio, Tex.
 903,107. Vaginal syringe. C. F. W. Ramus, assignor of one-half to B. H. Ring, both of Boston.

Trade Marks.

- 36,960. New Jersey Car Springs and Rubber Co., Jersey City, N. J. The word *Emerald*. For garden hose and belting.
 36,962. Same. The word *Tubcor*. For tubing and hose.
 36,963. Same. The word *Staple*. For hydraulic hose and belting.
 37,170. Same. The word *Arctia*. For belting.

ISSUED NOVEMBER 10, 1908.

- 903,422. Horseshoe pad. J. B. White, Buffalo, N. Y.
 903,707. Manufacture of rubber tires. J. T. Gordon, Indianapolis, Ind.
 903,714. Pneumatic tire casing. C. G. Hawley and E. K. Baker, Chicago.
 903,715. Tread for pneumatic tires. Same.
 903,759. Horseshoe. [With rubber pads.] H. Paar, Canton, Ohio, assignor of one-half to C. McGranahan, Chicago.

Trade Marks.

- 36,808. Slater & Morrill, South Braintree, Mass. The letters *S. & M.*, for rubber soled letter shoes.
 37,495. Hazard Mfg. Co., Wilkes-Barre, Pa. The representation of a pioneer settler and an Indian shaking hands under a tree. For rubber insulated wires.
 37,700. Charles F. Wilmer, Arlington, Mass. The word *Chevalier* in a shield. For rubber and other boots.

ISSUED NOVEMBER 17, 1908.

- 903,811. Sprinkling device. [With spherical rubber bulb.] K. S. T. Björkman, Ontario, Canada.
 903,891. Pneumatic tire. C. Scheuner, Chicago.
 904,118. Wheel for motor vehicles. [With rim recessed for pneumatic tire.] A. L. McMurtry, assignor to Wyckoff, Church & Partridge, New York city.
 904,140. Atomizer for scent and other sprays. H. Rachmann, Haida, Austria.
 904,193. Horseshoe. [With rubber tread.] H. J. Filliez, assignor of one-half to E. D. Brant, all of Canton, Ohio.
 904,380. Hose reel. L. Vader, Pittsfield, Mass.
 904,409. Pneumatic tire. J. L. Coesir, Joplin, Mo.
 904,410. [Pneumatic tire.] A. T. Hughes, London, England.
 904,470. Manufacture of artificial Pará rubber. [A process of making synthetic rubber, which consists in subjecting vegetable matter, such as peat, to fermentation until a mucilaginous mass containing a large percentage of isoprene is formed, separating the mucilaginous mass from the remaining liquid, and treating it with a nitrogenous derivative of iron and suitable mineral salts.] J. Blum, Boniface, Brussels, Belgium, assignor of one-half to A. W. Carpenter, London, England.

Trade Marks.

- 26,308. R. A. C. Esnault-Pelterie, Boulogne sur Seine, France. The word *Reggerton* on a section of an pneumatic tire. For tires.
 34,693. A. W. Faber, Stein, Germany. The word *Columbus*. For rubber erasers.

ISSUED NOVEMBER 24, 1908.

- 904,515. Invertible atomizer. T. A. De Vilbiss, assignor to The De Vilbiss Mfg. Co., all of Toledo, Ohio.
 904,527. Hose rack. H. Gibbs, assignor to W. D. Allen Mfg. Co., Chicago.
 904,564. Cow milker. J. Riepinske, Wausau, Wis.
 904,570. Supplemental wheel for motor cars. M. D. Stocking, Lindenwood, Ill.
 904,673. Nozzle tip. [For hose.] W. E. Bideker, Fort Worth, Tex.
 904,721. Motor wheel for cycles. [With pneumatic tire.] J. E. Périllard, Geneva, Switzerland.
 904,808. Insulating material. G. H. Rupley, assignor to General Electric Co., Schenectady, N. Y.
 904,930. Aerial ship. F. Bollhorn, Veddel, near Hamburg, Germany.
 904,945. Wire bracket or holder and insulator. I. L. Edwards, Aurora, Ill.
 905,032. Spray nozzle. A. S. Washburn, Germantown, N. Y.

905,087. Atomizer. H. H. Mallory, Chicago.

905,105. Rubber footwear. E. A. Saunders, South Bend, Ind.

Trade Marks.

- 30,372. Peerless Rubber Mfg. Co., New York city. The word *Acme*. For hose.
 30,374. Same. The word *Lakeside*. For hose and packing.
 35,083. Archer Rubber Co., Milford, Mass. The words *Archer Brand*, under an arched bridge. For rubberized swimming collars.
 38,170. A. G. Spalding & Bros., New York city. The word *Dimple* in a semi-circle. For golf balls.
 38,171. Same. The word *Glory* in a semi-circle. For golf balls.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1907.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 4, 1908.]
 16,077 (1907). Puncture resisting layer for pneumatic tires. W. Morton, Wishaw, Scotland.

16,125 (1907). Method of repairing tires, hose pipes and the like. H. Herzog and O. Hiler, Munich, Germany.

16,102 (1907). Holder for spare tires on motor cars. N. Robinson and J. M. Roberts, London.

16,257 (1907). Hose coupling. W. F. J. Curnow, Aramaho, New Zealand.

*16,325 (1907). Apparatus for vulcanizing rubber in great lengths. J. R. Gammeter, Akron, Ohio.

*16,349 (1907). Upper of an overshoe. F. C. Hood, Boston, Massachusetts.

16,454 (1907). Metal band to prevent tires from puncturing. J. Brookes, Birmingham.

16,459 (1907). Tire inner tube with recess or indented ends. J. Mollett, London.

16,520 (1907). Mixtures for rendering fabrics waterproof. S. Ebizuka, Yokohama, Japan.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 11, 1908.]

16,587 (1907). Elastic tire. T. J. McBride, Christchurch, New Zealand.

*16,665 (1907). Pneumatic tire with self sealing compound. A. B. Shaw, Medford, Massachusetts.

16,695 (1907). Elastic tire formed of two or more rows of blocks. H. Swales, London.

16,772 (1907). Spring wheel with inner and outer rims connected by india-rubber insertion pieces. J. Slee, Newton-le-Willows, Lancs.

16,796 (1907). Inflated valves for tires. W. Richards, Portsmouth.

16,819 (1907). Spring wheel with hub portion carrying a pneumatic cushion. J. D. Macarthur, and two others, Ayr, Scotland.

16,981 (1907). Pneumatic tire. I. Lang, Munsterburg, Germany.

17,055 (1907). Tire having a tread of wooden blocks resting on a rubber cushion. M. R. Zechlin, Charlottenberg, Germany, and another.

17,118 (1907). Puncture preventive band for pneumatic tires. A. E. Knight, Glascote.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 18, 1908.]
 17,179 (1907). Spare tire carrying rim. P. E. Doolittle, Toronto, Canada.

17,220 (1907). Rubber shoe with adjustable fastening strap. E. Kubath, Strohjehnen, Germany, and another.

17,417 (1907). Rubber cushion for horseshoe. H. Beigel, London, and another.

17,468 (1907). Spring wheel with pneumatic tube at the hub and rim. Comte G. de Robiano, Marchin lez Huy, Belgium.

17,469 (1907). Heel protector. W. J. Checkley, London. (J. Darnell, Brisbane, Australia.)

17,485 (1907). Method of making seams in hot water bags. J. B. Brooks, Bromsgrove.

17,563 (1907). Puncture preventing fabric for pneumatic tires. W. Hill, Birmingham, and J. P. Wilks, Uttoxeter.

17,591 (1907). Spring wheel with rotatable pneumatic cushion. C. H. A. Verity, Leeds.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 25, 1908.]
 *17,621 (1907). Tubular or flat multiple fabrics for hose pipes or belting. H. Z. Cob, Malden, Massachusetts.

17,661 (1907). Flat thread of leather for tire covers. A. L. H. Ripert, Asnières, France, and another.

17,753 (1907). Heel and sole protector of leather and rubber. J. Zuchvaloviez, Gorton, Manchester.

17,815 (1907). Solid rubber tire, with embedded bands of interwoven wire helices. A. E. Wale, Birmingham.

17,863 (1907). Leather, rubber and canvas patch for tire repairs. H. Marles, Manor Park, Essex.

17,930 (1907). Elastic tire. J. Cairns, Willenhall.

17,949 (1907). Heel of a golosh recessed to receive a revolvable disk of leather. G. E. Smith, Christchurch, New Zealand.

17,966 (1907). Tool for applying tires. Michelin et Co., Clermont-Ferrand, France.

17,966 A (1907). Tool for applying tires. Same.

- *17,985 (1907). Spring wheel with tread of elastic stud. A. Ibanez, New York.
 17,992 (1907). Pneumatic tire tread. E. Jeannerot and P. Perrin, Lyons, France.

THE FRENCH REPUBLIC.

Patents Issued (with Dates of Application).

- 391,233 (June 15, 1908). Michelin et Cie. Tire for bicycles and motor cycles.
 391,307 (June 18). E. Butterlin. Wheel with pneumatic cushion around hub.
 391,191 (June 15). J. Leibler. Sponge rubber cushion for the inside of boat beds.
 391,416 (May 27). G. Boladens. Tire.
 391,434 (June 20). Hodgson. Elastic tire.
 391,499 (June 20). R. Labruyère. Process for recovering the solvents in the machines for coating rubber coated fabrics, as well as in all similar or dissimilar machines used in other manufacturing lines.
 391,516 (June 20). P. L. Darolles. Elastic tire.
 391,547 (June 22). B. A. Godek. Rubber protective tire tread.
 391,436 (June 6). The County Chemical Co., Ltd., and Hill. Vulcanizer for tire repairs.
 391,685 (May 29). J. C. Casanova. Reinforced air tube for tires.
 391,709 (June 26). H. Swales. Wheel tire.
 391,843 (July 2). Flajollet. Elastic tire for wheels.
 391,716 (June 26). P. Gaedke and Schaffer. Means of attaching rubber heels.
 392,091 (July 7). J. S. Cushing. Elastic tire.
 391,895 (Sept. 9, 1907). A. Dabon. Process of attaching leather to rubber.
 392,021 (July 4, 1908). Michelin et Cie. Wheel and pneumatic for automobiles and other vehicles.
 392,111 (July 7). Fairhurst and Eastman. Cover for pneumatic tires.
 392,141 (July 9). J. Berliner. Vulcanizer for tire repairs.
 392,064 (July 6). T. Gare. Process for the manufacture of articles from rubber scrap.
 392,166 (June 29). A. Güerin. Cover for pneumatic tires.
 392,167 (June 29). Hassencamp and Boerner. Elastic tires.
 392,206 (July 10). H. Musclow. Air tube for tires.
 392,216 (July 10). M. J. Stavro. Pneumatic tire.
 392,163 (June 25). M. de Clèves. Construction system for bicycles in which the frame is only on one side of each wheel, which allows of replacing the pneumatic tires without unscrewing any nuts.
 392,233 (July 10). Collin and Huovila. Tire with multiple air tubes.
 392,324 (July 15). A. Cheradame. Elastic wheel with pneumatic tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Robert, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

THE MADERO GUAYULE FACTORIES.

THE Messrs. Madero have often been mentioned in THE INDIA RUBBER WORLD as owners of vast tracts of guayule lands in Mexico and also as very large producers of guayule rubber.

In connection with Mr. Francisco Del Hoyo and Mr. H. V. Hernandez they estimate that they have something like 100,000 tons of guayule shrub on their own estates.

Through the courtesy of their New York representative, Mr. Ed. Maurer, a view of one of their rubber factories, situated at Parras, is here shown. This factory has a monthly output of 130 tons of rubber, while the combined production of all the eight Madero factories reaches a total of 350 tons of rubber per month, all of which is going into consumption as fast as it can be shipped. The Madero interests operate the following factories:

Compania Explotadora Coahuilense, S. A., Parras.

Salvador Madero & Co., S. e. C., San Tiburcio (near Vanegas).

Fabrica de Las Delicias, San Pedro.

Fabrica de Hule Australia, Cuatro Ciénegas.

Compania Ganadera de La Merced, Torreon and Gomez Palacio, operating three factories.

Their eight factories are running at present day and night to their full capacity and, as the Maderos never have made a practice of storing guayule but only produce what has actually been sold, it shows how well their guayule rubber has been received by the manufacturers in America and in Europe.

At the present rate of producing guayule rubber it is estimated that the first cutting will probably all be made into rubber within the next three years, but young fields are rapidly growing up which probably will furnish a new supply in from four to five years.

Very little coal is used in the factories of the Madero companies, the bulk of the fuel being the refuse guayule after the rubber has been extracted. The larger factories have their own machine shops, and in connection with them are quarters for the workmen. Physicians are in attendance at the factories and in the guayule fields.

THE Brazil court at the Olympia Rubber Exhibition included a large specimen of Pará rubber. A member of the Exhibition Committee presented a £5 note to be awarded to the visitor who most nearly guessed the weight. The actual weight, 559 pounds, was guessed by a lady in Kensington. The *pelee* referred to was well worth attention on account of its size, but one which was despatched from Bolivia to the United States in 1893, for the Chicago World's Fair, but arrived too late for that occasion, weighed 1,181 pounds. It was exhibited for a long time in the window of the Goodyear's India Rubber Glove Manufacturing Co., on Broadway, New York.



FACTORIES OF COMPANIA EXPLOTADORA COAHUILENSE, S. A., PARRAS, MEXICO.

The Obituary Record.

CHARLES BILLINGS DICKINSON died in Brooklyn, N. Y., where he was long identified with the rubber industry, on November 29, in his eightieth year. He was born April 7, 1829 at Savoy, Massachusetts, and when he was still a boy his family removed to the nearby town of Conway, where he attended school with the late Marshall Field and the late William C. Whitney. The houses in which the two latter were born, by the way, are still standing at Conway. Young Dickinson engaged for a while in business as a traveling salesman for Yankee notions, in which he became widely known.



THE LATE CHARLES B. DICKINSON.

Mr. Dickinson is understood to have become interested in rubber manufacture in Brooklyn about 40 years ago. In 1870 he bought the interest of Mr. Gray in the firm of Holton & Gray, and in 1874 bought the interest of the other partner, Mr. Francis H. Holton, who afterward became associated with The B. F. Goodrich Co., and who is still living at Akron, Ohio. Mr. Dickinson described his factory as the Brooklyn Rubber Works.

For a number of years the business was located on Atlantic

avenue, in premises shown in an accompanying illustration. The output of the factory embraced druggists' sundries—many articles in which line Mr. Dickinson patented in the years 1883 to 1886—the lighter class of mechanical goods, mold work and the like. In April, 1890, Mr. Dickinson having become financially embarrassed, the premises described were dismantled and the effects disposed of at auction. He resumed business later, however, and continued to market some of his specialties until within the last three or four years.

Just before the period mentioned Mr. Dickinson sustained an accident in the streets of New York from the effects of which he lost completely the use of an arm and finally became incapacitated for business. The remainder of his life was spent mostly among friends at Ashfield, Mass. His death occurred at the home of his daughter, the wife of Charles R. Kearns, No. 830 President street, Brooklyn, whom she married in 1883. The daughter is the only immediate survivor.

Mr. Dickinson was a member of the Masonic fraternity and of the Episcopal church. The interment was at Ashfield.

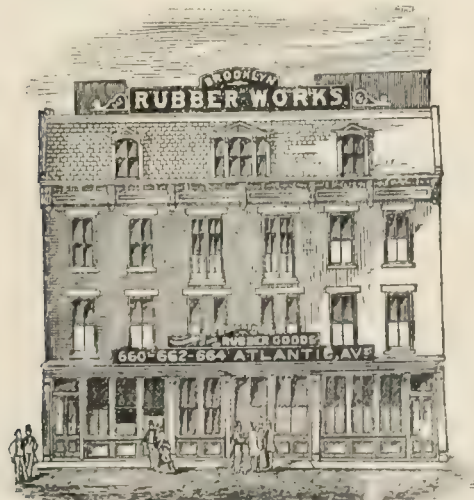
Mr. Dickinson was really one of the pioneers in the druggists' sundries business, and was a contemporary of such men as Henry G. Tyler, Dr. Morris Mattson, and Francis H. Holton. He knew the rubber business in the old-fashioned way very thoroughly, and was the inventor of many specialties that were of considerable value. He was a bluff, hard-working, outspoken character who hated his enemies and loved his friends with all the fervor of a strong nature. His business was never a very large one—it was before the day of large companies—but at its best it was profitable and well conducted, and its founder was one who helped make the early history of the druggists' sundries business.

E. F. C. YOUNG.

EDWARD FAITOUTE CONDUCT YOUNG, regarded as the leading financier of New Jersey, died on December 6 at his home in Jersey City, in his seventy-fourth year. Primarily a banker, he became active in promoting transit facilities in New Jersey, and later was interested in numerous enterprises in New York. For over 30 years he was president of the First National Bank of Jersey City, and at the time of his death was an officer or director in twenty-four financial and industrial enterprises. He was president of the Joseph Dixon Crucible Co. and the American Graphite Co. He is survived by his wife, a son, and a daughter. His son-in-law, George T. Smith, is vice president of the Dixon company.

RUBBER SHOE OBJECT LESSONS.

RECENTLY the shoe trade in various parts of the country have been visited by the representatives of the Boston Rubber Shoe Co. for the purpose of demonstrating to the retail merchant how rubber boots and shoes are made. Going to a town where the company's goods are handled by a wholesale house, the representatives of the company invited the local retailers to attend a demonstration at which Mr. W. H. Palmer, of Boston, made up a rubber boot and overshoe, while Mr. J. J. Hawkins, also of Boston, delivered a lecture, not only descriptive of the processes being carried out, but giving also a general idea of the sources of rubber and processes through which the raw material must go before it is ready for use by the shoemaker. The material, of course, was cut out in advance of the demonstration, but all the processes of manufacture were carried out except, of course, the vulcanization. The newspapers in the various towns visited gave a liberal amount of space to these unique exhibitions.



THE LATE C. B. DICKINSON'S RUBBER FACTORY.

Official India-Rubber Statistics

For the United States Fiscal Year Ended June 30, 1908.

INDIA-RUBBER.

I.—Imports of Crude India-Rubber, by Countries.

FROM—	Pounds.	Value.
<i>Europe:</i>		
Belgium	3,016,462	\$2,053,360
France	1,561,182	1,040,504
Germany	2,821,104	1,980,636
Netherlands	160,856	111,610
Portugal	2,144,973	1,201,787
United Kingdom	6,800,622	4,745,201
Total	16,514,289	\$11,133,209
<i>North America:</i>		
British Honduras	16,886	\$11,972
Canada	32,821	19,893
Costa Rica	97,399	56,653
Guatemala	110,614	56,915
Honduras	102,010	65,865
Nicaragua	510,093	311,974
Panama	134,972	82,415
Salvador	20,224	12,200
Mexico	9,269,443	3,888,684
British West Indies	259	150
Cuba	378	250
Dutch West Indies	108	27
Total	10,295,207	\$4,506,998
<i>South America:</i>		
Brazil	31,645,173	\$19,284,856
Colombia	401,401	249,776
Ecuador	655,485	413,378
Peru	258,389	210,342
Uruguay	5,213	3,520
Venezuela	217,399	140,668
Total	34,183,060	\$20,302,540
<i>Asia:</i>		
Straits Settlements	921,411	\$332,082
Other British East Indies	316,076	335,870
Total	1,237,487	\$667,952
<i>Oceania:</i>		
Australia and Tasmania	40	\$36
<i>Africa:</i>		
British West	250	\$61
British East	2,827	2,389
Total	3,077	\$2,450
GRAND TOTAL	62,233,160	\$36,613,185
Total, 1906-07	76,963,838	\$58,919,981
Total, 1905-06	57,844,345	45,114,450
Total, 1904-05	67,234,256	49,878,366
Total, 1903-04	59,015,551	40,444,250

II.—Imports of Crude India-Rubber, by Customs Districts.

AT—	Pounds.	Value.
Baltimore, Md.	210,595	\$56,180
Boston and Charlestown ..	623,181	395,776
Newport News, Va.	250	61
New York	57,618,236	34,716,816
Philadelphia	130	148
Galveston, Tex.	278	126
Key West, Fla.	157	127
Mobile, Ala.	8,289	5,712
New Orleans, La.	250,184	123,118
Pensacola, Fla.	115	58
Corpus Christi, Tex.	113,270	31,112
Paso Del Norte, Tex.	12,515	7,292
Saluria, Tex.	3,291,115	1,210,320
Puget Sound, Wash.	40	36
San Francisco, Cal.	44,072	27,235
Champlain, N. Y.	14,721	10,682
Chicago, Ill.	18,355	13,819
Cuyahoga, Ohio.	8,761	4,811
Niagara, N. Y.	4,644	3,483
Vermont, Vt.	13,310	5,576
Louisville, Ky.	92	38
St. Louis, Mo.	850	659
Total	62,233,160	\$36,613,185

III.—Imports of Manufactures of India-Rubber, by Customs Districts.

AT—	Value.
Baltimore, Md.	\$1,870
Boston	120,617
Fall River, Mass.	8,825
Newport News, Va.	3,750
New York	1,595,609

Philadelphia	37,663
Porto Rico	3,185
Providence, R. I.	1,679
Galveston, Tex.	4,710
New Orleans, La.	9,805
Tampa, Fla.	1,125
Hawaii	1,588
Puget Sound, Wash.	2,289
San Francisco, Cal.	15,166
Chicago, Ill.	33,385
Cuyahoga, Ohio.	2,156
Detroit, Mich.	13,476
Genesee, N. Y.	2,354
Milwaukee, Wis.	1,098
Cincinnati, Ohio.	2,001
Denver, Colo.	28,158
Indianapolis, Ind.	1,069
Kansas City, Mo.	2,457
Pittsburg, Pa.	1,088
St. Louis, Mo.	5,675
Other ports	4,862
Total	\$1,956,590

IV.—Imports of Manufactures of India-Rubber, by Countries.

[+ Indicates Increase; — indicates Decrease, compared with the preceding year.]

FROM—	Value.
Austria-Hungary	\$107,870+
Belgium	101,750+
France	539,480—
Germany	737,278
Italy	115,639+
Netherlands	937—
Norway	3,587+
Russia in Europe	12,708—
Spain	197—
Switzerland	417—
United Kingdom	333,543+
Canada	1,894—
Mexico	195+
Hongkong	235—
Japan	415—
Other Countries	385—
Total	\$1,956,590
Total, 1906-07	\$2,262,783+
Total, 1905-06	\$1,992,413
Total, 1904-05	1,389,064
Total, 1903-04	821,526
Total, 1902-03	665,072
Total, 1901-02	449,756
Total, 1900-01	478,663
Total, 1899-1900	504,083
Total, 1898-99	379,309
Total, 1897-98	309,247

V.—Exports of Manufactures of India-Rubber (and Gutta-Percha), by Customs Districts.

FROM—	Belting, Packing, and Hose	Boots and Shoes	All other Rubber.
Baltimore, Md.	\$805	\$....	\$250
Bangor, Me.	2,845	1,056	1,086
Boston, Mass.	12,550	474,931	341,568
New York	781,834	1,041,260	2,333,782
Passamaquid'y, Me	3,506	295	2,104
Philadelphia	25,002	....	18,833
Mobile, Ala.	436	1,447	470
New Orleans, La.	8,888	1,507	2,631
Arizona	55,091	830	8,136
Corpus Christi	19,440	2,234	66,768
Paso Del Norte	46,224	209	19,110
Saluria, Tex.	47,376	225	8,145
Alaska	15,828	27,331	1,204
Puget Sound	15,746	10,821	57,610
San Diego, Cal.	986	128	51
San Francisco	176,729	40,856	259,018
Buffalo Creek	110	....	134,622
Champlain, N. Y.	7,995	64	71,038
Detroit, Mich.	23,391	6,015	39,222
Huron, Mich.	467	629	7,372
Memphremagog	19,134	57	50,190
Minnesota	7,281	520	15,669
Montana & Idaho	1,762	10	1,010
Niagara, N. Y.	48,218	1,367	105,719
N. and S. Dakota	14,701	1,133	13,300
Osewagatchie	1,670	371	85,680
Superior, Mich.	1,876	....	120
Vermont, Vt.	5,678	500	89,146
Other districts	2,266	425	9,186
Total	\$1,347,775	\$1,614,290	\$3,743,040

GUTTA-PERCHA.

Imports of Crude Gutta-Percha, by Countries.

FROM—	Pounds.	Value.
Germany	143,261	\$78,391
Netherlands	17	13
United Kingdom	11,601	8,395
Canada	7,326	4,615
Panama	9,363	2,212
Columbia	12,619	3,552
Straits Settlements	4,413	3,125
Japan	10	2
Total	188,610	\$100,305
Total, 1906-07	546,890	\$201,339
Total, 1905-06	500,770	188,161
Total, 1904-05	665,217	210,188
Total, 1903-04	424,617	174,953

GUTTA-JELUTONG (PONTIANAK).

FROM—	Pounds.	Value.
Netherlands	19,950	\$2,969
United Kingdom	116,923	4,160
Straits Settlements	22,324,810	1,020,339
Dutch East Indies	341,620	12,308
Total	22,803,303	\$1,039,776
Total, 1906-07	28,437,660	\$1,085,098
Total, 1905-06	21,390,116	733,074
Total, 1904-05	19,104,911	641,319

[NOTE.—The imports of Gutta-percha credited to South America are undoubtedly Balata.]

SCRAP RUBBER.

I.—Quantity and Value of Exports by Countries.

To—	Pounds.	Value.
Belgium	41,104	\$11,224
France	375,068	33,014
Germany	451,270	53,382
Italy	159,186	16,256
Netherlands	48,202	6,417
Sweden	64,679	6,483
United Kingdom	1,547,460	208,882
Canada	1,568,413	114,006
Australia	398	63
Total, 1907-08	4,255,780	\$449,727
Total, 1906-07	4,756,621	\$548,695
Total, 1905-06	a	339,507
Total, 1904-05	a	204,945
Total, 1903-04	a	534,500
Total, 1902-03	a	404,586

a—Not officially reported.

II.—Quantity and Value of Imports by Countries.

FROM—	Pounds.	Value.
Austria-Hungary	105,480	\$9,668
Belgium	123,493	12,384
Denmark	239,981	24,369
France	1,095,170	103,133
Germany	3,640,805	345,987
Italy	28,032	1,353
Netherlands	246,037	23,203
Norway	228,435	23,250
Russia in Europe	4,694,731	427,662
Sweden	616,771	68,145
Switzerland	10,677	1,004
Turkey in Europe	342,340	32,392
United Kingdom	1,671,666	163,209
Bermuda	3,116	116
Canada	2,684,461	210,175
Newfoundland	20,766	2,298
Mexico	46,761	3,400
British West Indies	988	16
Cuba	95,816	9,686
Brazil	219,197	18,807
Guiana, British	1,041	82
Chinese Empire	60,333	3,537
Straits Settlements	16,775	5,232
Hongkong	120,035	6,434
Turkey in Asia	6,720	726
Australia	11,407	464
Total, 1907-08	16,331,035	\$1,496,822
Total, 1906-07	29,335,193	\$2,608,987
Total, 1905-06	24,756,486	1,721,678
Total, 1904-05	15,575,214	953,439

EXPORTS OF AMERICAN RUBBER GOODS, FISCAL YEAR ENDED JUNE 30, 1908.

COMMENTS ON THE TABLE.

THE steady increase in the volume of exports of rubber goods from the United States for several years past is indicated by the following comparison, giving the totals at intervals of five years, besides which is shown the general distribution of the exports:

	1897-98.	1902-03.	1907-08.
Europe	\$833,003	\$2,234,442	\$3,469,144
North America		1,183,389	1,773,721
South America	624,204	104,174	271,303
Asia	75,142	233,870	444,204
Oceania	100,486	295,953	572,793
Africa	82,027	124,514	173,880
	\$1,723,862	\$4,176,351	\$6,705,105

A comparison of the distribution of American exports of rubber goods last year with five years ago shows a gain in respect of every country in Europe to which such goods go with the exception of the Azores, Portugal and Spain. Fourteen countries show a gain. The three exceptions represent exports last year of only \$17,739 against \$36,663 five years ago. The total increase of exports to Europe over five years ago was \$1,234,702, about equally divided between belting, packing and hose, boots and shoes, and "all other." One striking increase is in exports of rubber footwear to Germany which increased from 289,777 pairs in 1902-03 to 823,171 pairs last year.

In North America exports have increased to Canada, Mexico, and Cuba. In South America the increase extends to all the countries on the list the most notable being in the case of Uruguay—\$1,182 to \$18,491. As to Asia, the increase applies mainly to China and Japan, and in Oceania to Australia. While exports to Africa have increased 50 per cent., the total is yet of comparatively little importance.

Doubtless these figures fall far short of the total export of products of the rubber factories of United States, since rubber enters into so many articles of export which are classed under other headings than rubber—electrical appliances, clothes wringers, talking machines, and very many other articles now being shipped in considerable quantities. This condition applies, however, to rubber goods exports from other countries, so that the figures presented here form a satisfactory basis for comparison with foreign statistics under similar headings.

INDIA-RUBBER GOODS IN COMMERCE.

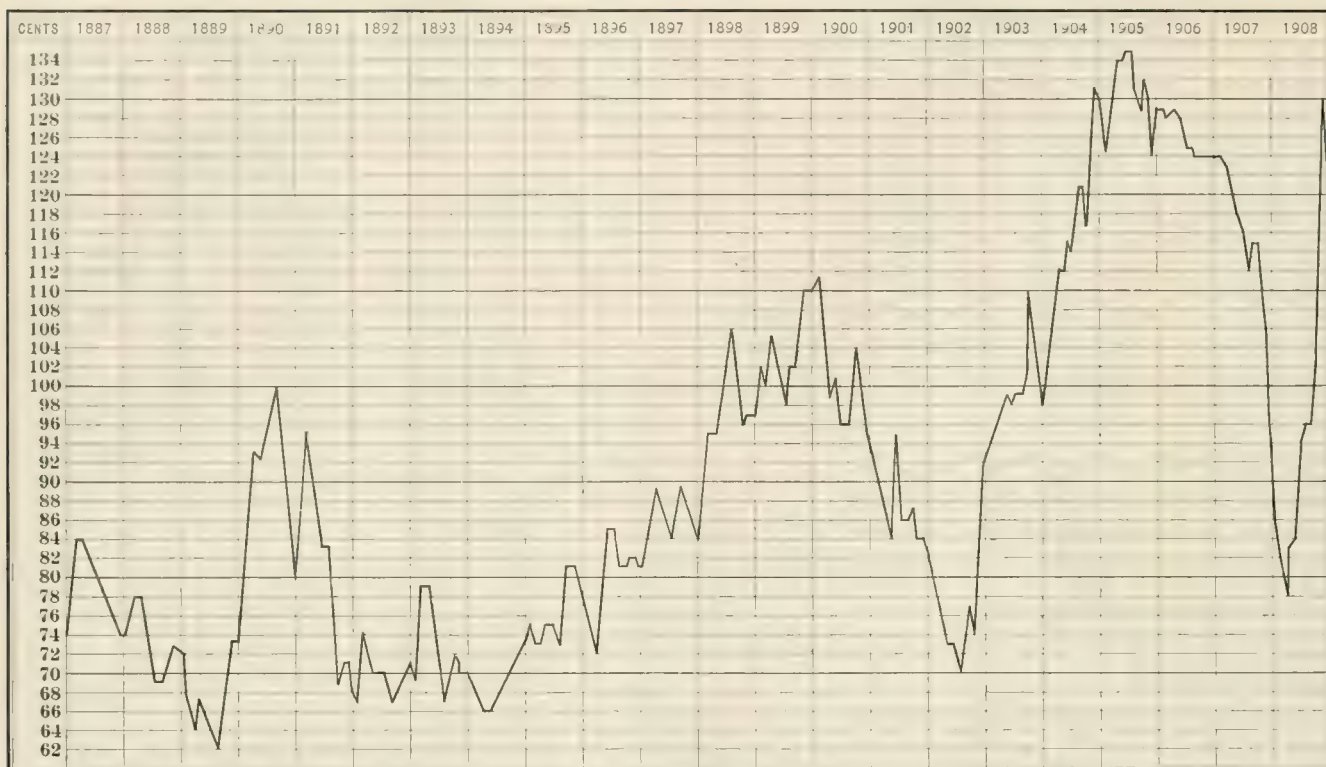
EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha for the month of October, 1908, and for the first ten months of five calendar years:

MONTH.	Belting, Packing, and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
October, 1908.....	\$123,075	\$113,608	\$310,382	\$547,065
January to October..	926,566	1,043,528	2,629,927	4,600,021
Total	\$1,049,641	\$1,157,136	\$2,940,309	\$5,147,086
Total, 1907.....	1,108,048	1,401,800	3,345,200	5,915,747
Total, 1906.....	994,883	1,077,000	2,702,861	4,774,753
Total, 1905.....	958,660	1,056,458	2,373,841	4,388,959
Total, 1904.....	724,916	988,025	1,976,519	3,689,460

THE Chiapas Land and Stock Co., incorporated under the laws of California, with a capital of \$100,000, stated to be fully paid, are located at Los Angeles, California, and have a property called "La Aurora" at Mapastepec, in the state of Chiapas, Mexico, being about 20 miles from the widely known "La Zacualpa" plantation. The company report having now in their property 40,000 planted rubber trees, ranging from 1 to 6 years, and to be planning to put 1,000 acres additional into rubber. H. J. Dike is president and J. T. Burton secretary. These gentlemen and the other officers of the company are substantial business men of Los Angeles.

EXPORTED TO	Belting, Packing, and Hose.	Boots and Shoes.	Other Goods.	Total.
	Pairs.	Value.	Value.	Value.
Austria-Hungary	\$2,911	12,813	\$7,198	\$87,900
Azores, etc.	218	.....	623	841
Belgium	4,806	20,634	102,800	55,688
Denmark	6,022	56,233	25,206	22,179
France	33,236	180,865	80,524	116,574
Germany	41,951	823,171	306,443	373,792
Greece	76	650	342	382
Italy	770	139,634	71,959	64,412
Netherlands	4,079	892	779	108,918
Norway	2,065	22,568	10,807	3,709
Portugal .....	.....	.....	490	490
Russia	11,575	5,184	3,432	10,150
Spain	2,303	20,816	10,131	3,974
Sweden	2,770	149,798	78,540	18,194
Switzerland	2,264	47,926	24,433	52,330
Turkey	50	151,131	74,731	8,170
United Kingdom	138,222	741,661	345,943	1,092,681
Total Europe.....	\$284,200	2,553,673	\$1,233,238	\$1,081,697
NORTH AMERICA:				
Bermuda	\$208	114	\$57	\$1,654
British Honduras	558	258	150	445
Canada	176,909	43,577	60,204	634,574
Newfoundland	3,013	23,382	19,880	3,095
Costa Rica	5,981	174	156	5,767
Guatemala	5,500	110	2,608	8,110
Honduras	2,062	24	63	859
Nicaragua	2,715	30	16	1,909
Panama	55,604	2,863	2,024	26,207
Salvador	4,078	12	24	4,077
Mexico	272,173	5,420	5,233	197,766
Miquelon, etc. ....	.....	72	196	196
West Indies, British...	5,861	495	265	15,262
Cuba	61,037	10,885	9,185	173,166
Danish	303	49	30	354
Dutch	48	72	48	620
Haiti	1,653	126	121	658
Santo Domingo	2,636	86	92	3,049
Total, North America	\$603,101	87,749	\$97,854	\$1,072,766
SOUTH AMERICA:				
Argentina	\$38,934	26,025	\$15,190	\$30,931
Bolivia	2,803	.....	.....	570
Brazil	11,861	32,576	18,962	29,044
Chile	11,016	9,951	7,177	16,744
Colombia	3,819	2,214	1,560	7,355
Ecuador	15,554	468	271	3,738
Guyana, British	1,414	1,048	483	4,925
Dutch	128	.....	.....	560
French	23	.....	.....	23
Paraguay .....	.....	.....	443	443
Peru	11,718	1,810	1,272	6,036
Uruguay	5,472	6,981	3,368	9,651
Venezuela	1,542	214	97	7,952
Total, South America.	\$104,974	81,287	\$48,380	\$117,949
ASIA:				
Aden .....	.....	.....	.....	\$25
Chinese Empire	18,336	2,055	2,360	6,288
China Japan	1,527	.....	.....	1,527
British India	8,559	708	444	6,584
Straits Settlements	3,841	.....	.....	3,722
Other British Indies...	.....	.....	720	720
Dutch East Indies.....	504	.....	1,352	1,856
Hongkong	4,049	7,822	4,178	4,196
Japan	57,682	77,480	64,878	238,486
Korea	3,572	361	462	409
Russia	61	73	323	1,390
Siam .....	.....	1	1	1,774
Turkey .....	.....	18,946	10,034	144
Total, Asia.....	\$98,131	107,446	\$82,680	\$263,453
OCEANIA:				
Australia and Tasmania.	\$108,309	186,366	\$98,887	\$122,507
New Zealand	30,275	42,728	35,232	51,282
Other British	83	.....	.....	16
French Oceania	298	1,292	1,076	775
German Oceania .....	.....	.....	148	148
Philippine Islands	32,368	11,882	9,139	82,398
Total, Oceania.....	\$171,333	242,268	\$144,334	\$257,126
AFRICA:				
British, West	\$5,297	96	\$283	\$2,076
British, South	64,857	5,374	6,200	14,480
British, East	900	.....	.....	3,318
Canary Islands .....	.....	.....	.....	16
German Africa	329	.....	.....	470
Liberia .....	.....	118	75	13
Portuguese Africa	44,505	12	10	30,062
Egypt	13	2,002	1,138	575
Tripoli .....	.....	198	98	98
Total, Africa	\$116,027	7,830	\$7,804	\$50,049
GRAND TOTAL.....	\$1,347,775	3,080,253	\$1,614,290	\$3,743,040
Grand Total, 1906-07.	\$1,253,369	2,310,420	\$1,231,898	\$3,729,643
Grand Total, 1905-06.	1,221,159	2,693,690	1,505,082	2,966,144
Grand Total, 1904-05.	904,100	2,390,539	1,214,342	2,573,375
Grand Total, 1903-04.	880,010	2,310,808	1,086,364	2,469,750
				4,436,124



PARA RUBBER PRICES FOR TWENTY-TWO YEARS (BASED ON HIGHEST NEW YORK PRICE DURING EACH MONTH).

THE RISE IN RUBBER PRICES.

THE chart of New York rubber prices which appears on this page is based upon the highest credible quotations during each month, for 22 years, for fine Upriver Pará. The figures upon which this chart is based, have been derived from the records of one New York house, and they are probably as trustworthy as can be obtained in the trade. It will be seen that the range of fluctuations in rubber is very wide; probably no other commodity shows such marked changes. It will be understood, of course, that rubber changes hands at the extreme figures only to a limited extent, but no matter how small the volume of transactions at the highest figures the quotation deserves to be mentioned as that the consumer would have to pay in case he were in need of rubber at the moment.

Concerning the frequent expression that the tendency of rubber prices is constantly upward this, of course, is not true from day to day, but only when applied to the market for a considerable period. To refer again to the chart, it will be seen that the highest quotation for any Pará grade at one time in 1889 was 62 cents. There was a rapid advance from this figure and many fluctuations occurred until, in the spring of 1894, "rock bottom" was reached again, at 66 cents. Rubber again went up and down until the highest price covered by the chart for more than a decade was reached—\$1.10½—from which there was a fall, not to the former low figures, but only to 70 cents. Six years later, owing to the recent financial depression, rubber again fell sharply, but this time only to 78 cents. The point to be made is that when from time to time an extreme decline is reached the limit is higher than on former similar occasions. There is not yet in sight any indication of what might be called stability in rubber prices, but if the history of the trade proves anything it is that in normal conditions rubber goes higher rather than lower.

One other point suggested by the chart is that very trivial matters apparently suffice to change the market violently, which is due to the fact that, while the rubber trade as a whole is of great importance and volume, the visible supply of raw ma-

terial is never large, and the best informed mind is unable to predict intelligently the extent of forthcoming supplies. The late John H. Cheever, a leading American rubber manufacturer, was accustomed to say that, so far as he could see, fluctuations in the crude rubber market were as apt to be caused by the sinking of a boat in the Missouri river as by anything else.

By the way, Mr. Cheever, when appearing once as a witness in legal proceedings in New York, submitted a statement of prices which he had paid for crude rubber during the years 1856 to 1881 inclusive, during which time the highest price reached for fine Pará was \$1.20, but this was during the Civil War, when gold was at such a premium as to make this paper money price equivalent to about 48 cents gold. Just 30 years ago, when the currency had been again placed on a gold basis, he was buying fine Pará at 50 cents. By the way, the lowest price which he reported paying for fine rubber was in March 1858—30 cents a pound. The price of Cartagena rubber was then 12½, and East Indian 15 cents. There is no record in the trade of lower prices having been reached since that date.

TENNIS GOODS IN WINTER.—Tennis shoes are among the rubber goods that are salable in many cities and towns during the winter time. The increase in gymnasiums, bowling alleys and other places for physical culture has created a demand for sneakers during the winter time. Some retailers hesitate to show these shoes in their window displays, for fear that their customers will consider them out of season. But they may properly be displayed in a special sale of rubber goods.—*Boot and Shoe Recorder.*

SAVED BY A STRETCH.—"You must have had some very narrow escapes from death in your eventful career," said an admirer to the great detective.

"I have had a few," he admitted, modestly. "Probably the closest shave I have had was when a band of South American outlaws hanged me, and went away without noticing that they had strung me up to a rubber tree."—*Brooklyn Life.*

The London Tire Show Season.

OLYMPIA MOTOR EXHIBITION.

AT the Olympia Motor Exhibition, in London, in the latter part of November, of which mention was made in the last INDIA RUBBER WORLD, there were more than 500 motor cars to be seen, representing the best productions of Great Britain, France, Germany and Italy, and including some American makes. As a motor car exhibit it was of great interest, while public attention was likewise bestowed liberally upon the varied display of tires, components, and accessories. In the latter department the specialties ran largely to detachable rims, detachable wheels and spare wheels.

THE TIRE EXHIBITS.

The importance of the tire feature has been referred to already. The principal tire exhibitors were, the figures referring to the "stand" numbers:

170. The Stepney Spare Motor Wheel, Limited, Llanely.—In addition to the Stepney wheel, with something new in patent flange attachment, the Stepney road grip pneumatic tire was shown, making its first public appearance. The tread of the Stepney tire is not vulcanized on, but molded in one part with the tire itself, under the new hydraulic process.

206. Louis Sgal, London.—Semi-solid tires used with lever springs and a machine for demonstrating the action of such springs in comparison with solid tires, compared with the ordinary suspension on pneumatics.

254. The Sirdar Rubber Co., Limited, London.—Soft molded endless tires, grooved solid motor tires, and tire sundries.

225. The Shrewsbury and Challiner Tyre, Limited, Manchester.—Pneumatic tires, solid tires, tubes, rims, and rubber matting.

256. Charles Macintosh & Co., Limited, Manchester.—"Kempshall" "Barker," and "Macintosh" tires.

257. Calmon Asbestos and Rubber Works, Limited, London.—Motor tires.

258. The Avon India Rubber Co., Limited, Melksham.—"Avon" tires and accessories.

259. Continental Tyre and Rubber Co. (Great Britain), Limited, London.—A full line of "Continental" tires and parts, including the new green colored tube [see THE INDIA RUBBER WORLD, December 1, 1908—page 107.]

260. The Palmer Tyres, Limited, London.—The full line of "Palmer" cord tires up to 7 inches; the "Palmer" cording machine, and other devices and specialties.

261. The Midland Rubber Co., Limited, Birmingham.—"Ajax" pneumatics, solid tires, attachable rims and the like.

262. H. M. Hobson, Limited, London.—"Jenatzky" and "Jenatzky-Houben" tires.

263. The Self-Sealing Rubber Co., Limited, Birmingham.—"Hermatic" tires and accessories.

264. Michelin Tyre Co., Limited, London.—"Michelin" compressed air cylinder twin tires and detachable rims.

265. Grose, Limited, Northampton.—"Grose" non-skidding and pneumatic proof studded tread, with new system of attachment.

266. The B. F. Goodrich Co., London and Akron (United States).—A full line of "Goodrich" motor tires and the "Goodrich" rubber studded non skid, which can also be fitted to other makes of tires, new or old.

267. J. E. Hopkinson & Co., West Drayton.—"Hopkinson" patent solid tires; quick curing rubber for repairs.

268. The New Motor and General Rubber Co., Limited, Harpenden and London.—"Warwick" motor tires in course of manufacture; "Rub-Metal" non skid vulcanizing compounds; prepared ducks; tire making and repairing plant complete.

269. Gaulois Tyres, Limited, London.—"Gaulois" pneumatics.

270. The Collier Tyre Co., Limited, London.—"Medallion" and "Collier" pneumatic tires.

271. David Moseley & Sons, Limited, Manchester.—"Detachable" plain and non skid tires, tough grey inner tubes; a great list of accessories.

272. Kempshall Tyre Co. of Europe, Limited, London.—"Kempshall" all rubber low pressure ribbed non skid tires.

273. North British Rubber Co., Limited, Edinburgh.—"Clincher" pneumatic and "Ducasable" cushion tires; solid tires for pleasure cars.

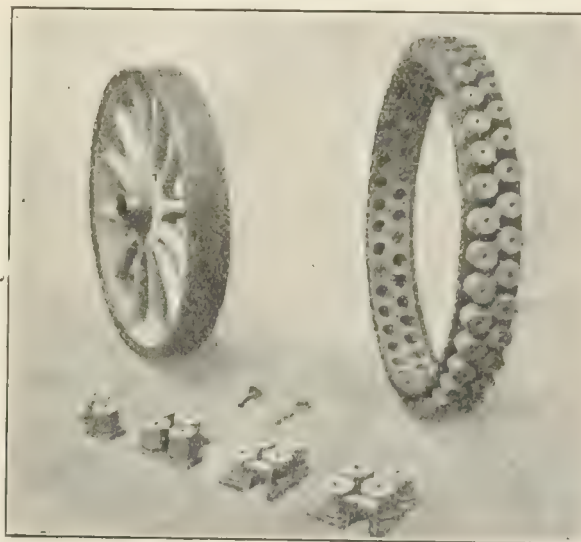
274. The "K. T." Syndicate, Limited, London.—The new "K. T." pneumatic tire; "K. T." rims.

275. The Dunlop Pneumatic Tyre Co., Limited, Birmingham.—The whole line of "Dunlop" tires, rims and accessories.

276. J. Liversidge & Son, Limited, London.—"Scott" non skid treads; "De Nevers" solid tires; "Sealomatic" inner tubes; "Vinet" detachable rims.

277. Prowodnik Tyre and Rubber Co., Limited, London.—"Prowodnik" pneumatic tires; solid red rubber motor tires.

278. Samson Leather Tread and Tyre Co., Limited, London.—



THE "K. T." TIRE.

The new "Cape Noire" tire composed of light cover with studded black rubber tread and the usual "Samson" specialties.

279. The Peter Union Tyre Co., London.—Usual types of tires and "Peter Union" simplex tires and rims.

280. Etablissements Hutchinson, London.—Standard tire types and "Hutchinson" wood fiber steel studded non skid.

SOME OF THE ACCESSORIES.

Throughout the exhibition were evidences of the variety and importance of products of the rubber factory in the accessories of motoring. In addition to miscellaneous rubber goods embraced in many of the tire displays, the following exhibits seem to merit attention, and this does not exhaust the list:

161. E. Kalker & Co., Coventry.—"E. K." insulated wires and cables for motor cars.

174. Siemens Brothers & Co., Limited, London.—"Siemens Obach" dry cells; rubber covered cables.

175. Hattersley & Davidson, Sheffield.—Tire pumps.

173. Motor Supply Co., Limited, London.—"Torkington" tires; inner tubes.

176. Universal Motor Imports, Limited, London.—"Gilbert" tire carriers. (American.)

182. Benetfink & Co., Limited, London.—Tires and accessories; motor clothing.

183. Glovegrove & Co., Limited, London.—“Otterma” non skid; motor clothing.

184. The Dunlop Rubber Co., Limited, Birmingham.—Wide range of motor clothing and rubber automobile accessories.

195. The Rotax Motor and Cycle Co., London.—“Rotax” vulcanizer for use of steam without a boiler.

199. A. W. Gamage, London.—Non skids; mechanical and compressed gas tire inflators.

201. J. B. Brooks & Co., Limited, Birmingham.—Tire boxes; spare tire wrappers.

209. Harvey Frost & Co., Limited, London.—The “H. F.” vulcanizer; vulcanizing materials.

211. Markt & Co., London.—“Unique” portable vulcanizer.

221. The Parsons Non Skid Co., Limited, London.—“Parsons” non skids; detachable rims.

224. The Acetylene Illuminating Co., Limited, London.—“Scioco” tire inflators.

252. R. & J. Pullman, Limited, Godalming.—“Pullman” non skid bands; “Pullman” tire lever.

CYCLES AND TIRES AT THE STANLEY SHOW.

THE thirty-second yearly Stanley Show at Royal Agricultural Hall, London, November 20-28, 1908, was such an exhibition of bicycles and accessories as America has not seen for many a day. No other evidence is needed of the strong hold which cycling has on Great Britain. In fact the thirty-second Stanley Show was even more complete than for several years past—perhaps fuller than in any previous years, except 1898 and 1899, when cycling trade and sport reached their zenith.

These facts are all the more notable in view of the standardization of the bicycle and the absence of novelties in construction. Inventors have not been idle, however, in the field of accessories and fittings, and the object of many accessory makers seems to be to provide means for cyclists to use their machines with a minimum amount of trouble, since the modern cyclist resents being called upon to do as much to his machine as the old-time riders.

One section of the hall was devoted to a comprehensive but small exhibit of motor cars, and in an adjoining building an American team of cycle polo players gave an exhibition of their skill daily.

The total number of exhibitors at the Stanley Show was 252—including cycles, motorcycles (which appeared in larger number than before), components, accessories, parts, and machinery. Many of these exhibits were very extensive, it not being unusual for some to occupy several spaces.

A feature of the Show was the announcement of prices of the wheels on exhibition. Thus the James Cycle Co. showed 18 models marked at figures ranging from £16 16 [= \$81.75] down to £5 10 [= \$26.77]. The Rover Co. also exhibited 18 models, ranging in price from £15 15 downward; the New Hudson Cycle Co., Limited, 20 models, marked from £14 14 down; the Humber, 20 models from £14 down, and so on.

The rubber trade was well represented by the standard makers of tires, both English and Continental, and by a number of firms who make a speciality of trading in tires, and it was not an unusual thing to see half a dozen or more tire models offered by one company. The Dunlop company were not exhibitors in the sense of occupying a “stand,” but their tires appeared on hundreds of bicycles throughout the building, and this fact was not allowed to escape the visitor.

LIST OF THE TIRE EXHIBITORS.

The Midland Rubber Co., Limited.....Birmingham
Palmer Tyre, Limited.....London
India-Rubber, Gutta-Percha and Telegraph Works Co.,
Limited.....London
North British Rubber Co., Limited.....Edinburgh
Capon, Heaton & Co., Limited.....Stirchley
Great Eastern Rubber Co.....London

East London Rubber Co.....London
Self Sealing Rubber Co.....Birmingham
The Gorton Rubber Co., Limited.....Openshaw
Leicester Rubber Co.....Leicester
W. & A. Bates, Limited.....Leicester
Coventry Rubber Co.....Coventry

Representing Firms on the Continent.

Bavarian Rubber and Asbestos Works.....London
Continental Motor Co.....London
Michelin Tyre Co., Limited.....London
Continental Tyre and Rubber Co., Limited.....London
Calmon Asbestos and Rubber Works, Limited.....London
Etablissements Hutchinson.....London
Peter Union Tyre Co.....London
The Polack Tyre Co.....London
Hanover Rubber Co.....London

There were other rubber items to be seen than tires, tubes and repair outfits. There were rubber sponges from Germany, “Silvertown” rubber tiling, various forms of sporting goods, and of course waterproof goods, because when the Britisher wants to go out on a wheel he refuses to be deterred by the weather.

A GOODRICH PRESSROOM.

PROBABLY no house in the world has devoted more attention to the scientific manufacture of small molded goods than have The B. F. Goodrich Co. (Akron, Ohio). How many hundreds of presses they operate does not appear, but the writer remembers one battery in which there were 150 in line. The



A PRESSROOM AT THE B. F. GOODRICH CO.'S FACTORY.

illustration accompanying this shows a portion of one of the press rooms. It is shown particularly to call attention to the method of ventilating. Under each press is a large galvanized iron pipe leading to a still larger main from which air is constantly extracted. This draws not only the hot air but the gases freed by vulcanizing away from the workmen, and delivers them into the open air many feet distant.

A PARAGRAPHER in one of the monthly reviews has been very much impressed with the various inventions of Mr. C. J. Bailey, and particularly with his rubber exerciser. Indeed he attributes all of Bailey's good looks and excellent physique to its use. This is what he says: “On that day I chanced to meet Mr. Bailey, and I could readily see that he was in himself an excellent advertisement of his exerciser. Health, muscle and good red blood had evidently been the gifts imparted by the use of the new rubber invention, which I learned was devised on the basis of the old but never to be despised motion of ‘sawing wood.’” Whether Bailey uses the exerciser himself nobody knows, but he is continually “sawing wood” at the old stand, and incidentally making a notable success of his specialties.

Tires at the New York Automobile Show.

THE first of the two great automobile shows scheduled for New York this season is in full blast as THE INDIA RUBBER WORLD reaches its readers this month. The formal opening was on New Year's eve. With the exception of a few hours of the evening of the last day of the year New York had no automobile show during 1908, the last preceding shows having been held between October 24 and November 9, 1907.

The show now in progress at the Grand Central Palace is announced as the Ninth International Automobile Show, under the management of the American Motor Car Manufacturers' Association, with the Importers' Automobile Salon and Motor and Accessory Manufacturers. Hitherto these exhibitions have been announced as under the auspices of the Automobile Club of America, with the participation of the American Motor Car Manufacturers' Association. The automobile shows this year promise to be of even greater interest than in the past. Not even the financial crisis of the past year served to lessen the activity of the automobile industry, and there are many indications of steadily increasing interest on the part of the public in motoring. Not only the thousands of car owners, but the greater number of thousands who hope to be, seem attracted always by an automobile show, besides which these are affairs coming in New York to have a distinct character as "society" events.

Not only are the leading American cars on exhibition at the Grand Central Palace, but a number of foreign exhibits which have come direct from the Paris Salon giving the show a more truly international flavor than has been true of any predecessor. The managers of the leading New York hotels have recognized the importance of the automobile shows and several hotels have

been decorated specially for the show week, which ends on January 7.

The tire exhibits are as numerous as ever, and while to the casual observer there may appear an absence of novelties, a closer view will reveal evidences of painstaking work on the part of the tire people to improve their product, with a view to increasing the comfort or the safety of motoring. There are new tire fabrics, new non skidding features, new demountable rims and spare wheels, and so on. It has been a year of progress in tire making as in the other details of the automobile industry, and the tire exhibits may be expected to come in for a good share of public interest.

SOME OF THE TIRE EXHIBITS.

THE AJAX-GRIEB RUBBER CO. (Trenton, New Jersey) make a complete exhibit of Ajax tires in all sizes. A feature of the display is a new Ajax non skid type of novel construction, insuring great wearing quality.

CONTINENTAL CAOUTCHOUC CO. (New York). The feature of this exhibit is the demonstration of the advantages of carrying Continental tires already inflated on spare rims.

THE DAYTON RUBBER MANUFACTURING CO. (Dayton, Ohio) exhibit their Dayton airless clincher tire in a somewhat modified form as compared with their 1908 product. This tire is cured complete in one operation, so that the internal columns are integral with the cover, and therefore will not separate from the cover; nor will it crush down.

THE DIAMOND RUBBER CO. (Akron, Ohio). This exhibit includes the usual line of Diamond quick detachable and regular clincher tires, and Diamond tires of the mechanically fastened



MAIN COURT AND DECORATIVE PLANS—GRAND CENTRAL PALACE AUTOMOBILE SHOW.



GRAND CENTRAL PALACE AUTOMOBILE SHOW.

[One of the five mammoth oil paintings which adorn the walls of the lobby.]

or Fisk type; also the Marsh quick acting rim, Diamond demountable rim, and solid tires for trucks and for high wheeled automobiles.

THE FISK RUBBER CO. (Chicopee Falls, Massachusetts) exhibit a line of automatic tires consisting of the bolted on type, clincher type for regular clincher rims, and quick detachable clincher type to fit all standard quick detachable rims. They also exhibit a removable rim in connection with the bolted on tire. There is a bolted on tire 6 x 40 inches, designed for fire department use for chemical engines. A demonstration is made of taking a tire off and replacing it with a new tire ready for use in 22 seconds.

G & J TIRE CO. (Indianapolis, Indiana) exhibit G & J round tread regular clincher and quick detachable automobile tires, Dunlop round treads, and all the various types with the Bailey treads. The standard universal quick detachable rim is shown fitted for clincher and Dunlop types.

THE B. F. GOODRICH CO. (Akron, Ohio) exhibit the regular line of Goodrich clincher automobile tires and Goodrich quick detachables in all sizes and styles of tread. In addition they show the Palmer web tire for electric vehicles, a distinct novelty. The company announce the Goodrich improved fabric, which will be used in the construction of all their tires this year. This fabric, in their estimation, marks the greatest improvement in tire construction since the beginning of the industry increasing as it does very materially the strength of the tire and minimizing the possibility of blow-outs. The process for adding to the strength of the tire fabric is a secret one.

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio) are featuring the Goodyear air bottle, making demonstrations at their booth. This is a steel bottle charged with air, and when it is desired to inflate a tire it is only necessary to attach the tube from the bottle to the tire valve and allow the tire to fill to the pressure required. Another feature of the exhibit is a new endless tire, with hard rubber base, for motor trucks. The retaining wires are imbedded in hard rubber which removes the liability of the wires to tear out.

MORGAN & WRIGHT (Detroit, Michigan), in addition to their standard types, exhibit a new heavy flat tread tire, the standard universal quick detachable rim, and an improved electric tire. The new heavy tread is distinguished by its breadth and thickness, which give it increased traction surface and wearing qualities. The rim referred to is operated simply by snapping or unsnapping a locking ring, there being no turnbuckles or wrenches.

PENNSYLVANIA RUBBER CO. (Jeannette, Pa.) This exhibit includes the company's standard wrapped tread tire which remains the same as last season except that a new compound is used for the tread with a view of adding to the life of the tire. A flat tread full molded tire of racing type and somewhat heavy construction is shown. Steel studded non skid treads are also shown. The exhibit includes four types of motorcycle tires, some of which are new.

THE SWINEHART CLINCHER TIRE AND RUBBER CO. (Akron, Ohio), in addition to their regular automobile tires, show for the first time this season a new rim attachment utilized as a spare tire. This makes it possible to attach the Swinehart tires mounted on clincher rims to any wheel without altering the original rim equipment. By attaching tires in this manner the same height of wheel is maintained as by the tire it replaces, so that a Swinehart cushion tire can be used in connection with three pneumatics without changing the level of the car.

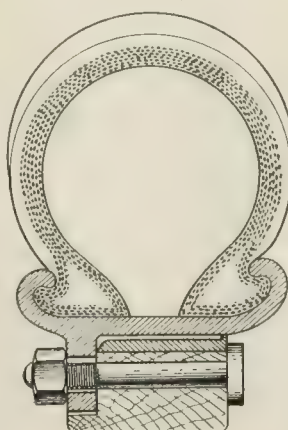
CONSOLIDATED RUBBER TIRE CO. (New York), exhibit their Kelly-Springfield solid tire and the Kelly-Springfield sectional tire for commercial motor vehicles. The latter is made in sizes from 3 inches to 8 inches, and can be used singly or in twin form. They have been applied to motor trucks weighing up to five tons. The Consolidated Company are also taking on the manufacture of pneumatic tires.

Other entries of tire exhibits are made by the following:

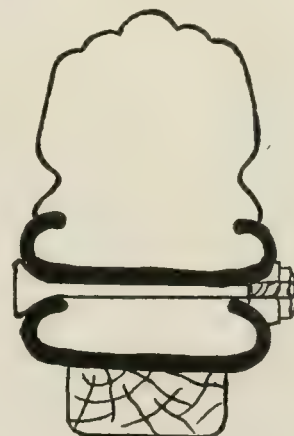
Dow Tire Co.	.....	New York
Empire Automobile Tire Co.	.....	Trenton, New Jersey
Firestone Tire and Rubber Co.	.....	Akron, Ohio
Hartford Rubber Works Co.	.....	Hartford, Connecticut
Leather Tire Goods Co.	.....	Newton Upper Falls, Mass.
Michelin Tire Co.	.....	Milltown, New Jersey
Motz Clincher Tire and Rubber Co.	.....	Akron, Ohio
Newmastic Tire Co.	.....	New York
The Republic Rubber Co.	.....	Youngstown, Ohio
Ennis Rubber Manufacturing Co.	.....	Newark, New Jersey
Healy Leather Tire Co.	.....	New York
Spare Motor Wheel of America, Limited.	.....	New York

THE ninth annual show of the Association of Licensed Automobile Manufacturers will be held in the Madison Square Garden, beginning Saturday evening, January 16, and continuing open until the following Saturday evening.

The tire exhibits referred to as appearing at the Grand Central Palace will, as a rule, be repeated at the Madison Square Garden and Chicago shows.



"DIAMOND" DEMOUNTABLE RIM.



SWINEHART QUICK RIM ATTACHMENT.

The Editor's Book Table.

HEVEA BRASILIENSIS OR PARA RUBBER. ITS BOTANY, CULTIVATION, CHEMISTRY AND DISEASES. By Herbert Wright, A. R. C. S., F. L. S. . . . Third edition. Colombo: A. M. & J. Ferguson. London: Mc Laren & Sons. 1908. [Cloth. 8vo. Pp. xvii+304+90 plates. Price, 10 shillings, net.]

THE mere fact of the publication of such a substantial book as this, from so competent a pen and with the imprint of a house of such standing, would argue the importance of rubber culture. The point is strengthened by the fact that a third edition has been brought out so soon after the appearance of the first, each more elaborate than its predecessor.

The author, as our readers know, is a man of scientific training who spent several years in Ceylon in an official position which required his attention to questions connected with rubber planting. He is, therefore, possessed of much first hand information on this interest, in addition to making systematic use of such authentic data as has been available from other sources.

The present volume exceeds the second edition by 125 pages of text and 35 full page plates, on separate leaves. The added space is divided among all the chapters of the book, showing evidences of careful revision. There is much additional information under nearly every heading, including statistics of yield, etc., brought down to the latest possible date before publication. The illustrations consist in large part of views from photographs of planted *Hevea* trees under varying conditions, sketches of tapping tools and mechanical apparatus for dealing with latex and preparing rubber for market. Separate chapters appear in this edition on "Botany of the Pará Rubber Tree" and "Effect of Tapping on Trees," which are treated more fully than before.

For those who have not seen the book it may be described as a general description of the Pará rubber tree in its forest *habitat* and under domestication; a brief history of its introduction into the Far East; a record of the growth of the rubber planting interest; and a summary of plantation methods, processes and apparatus, and the results attained. The estimates of rubber planting costs, in Ceylon and elsewhere, with which the volume closes, doubtless are not intended to be followed closely in any case, but they are at least of interest to the prospective planter in pointing out the various headings under which outgo may be necessary before an income is derived from a rubber estate.

A PERSONAL NOTE.

I FIRST met Herbert Wright some years ago at the experiment station connected with the Royal Botanic Gardens at Peradeniya, Ceylon. It was about as hot as it ever gets in that country, which is saying much.

Wright ran me over the gardens, showing me all they were doing in rubber, with an energy and enthusiasm that was really delightful. Later I got a letter from him saying that he had accepted the post of editor of the *India-Rubber Journal* in London, and I was glad of it. Certainly he has made a much better paper of that estimable journal, and then there is another thing that I like about him. When he borrows anything from my own paper he says "From THE INDIA RUBBER WORLD," and not "We take the following from a New York contemporary." In other

words, people know it is THE INDIA RUBBER WORLD, and do not have to spend time guessing whether it is from *Zion's Herald* or the *Ladies' Home Journal*.

Mr. Wright is a young man, being but 34 years old, and yet he has done much. For training he prepared at the Royal College of Science in London, and the London University under Professor Dr. Tilden, F.R.S. Later he toured through the Far East to study rubber plantation development, then he spent nearly seven years as an official at the Botanic Gardens at Peradeniya, studying economic plants, and especially those yielding India-rubber.

As a writer, Mr. Wright takes high rank, and is the author, in addition to "Hevea Brasiliensis," of the following well known works: "Science of Pará Rubber Cultivation," "Rubber Cultivation in the British Empire," "My Tour in Eastern Rubber Lands," "The Genus *Diospyros* (ebony) in Ceylon; Its Morphology, Anatomy and Taxonomy," "Theobroma Cacao; Its Botany, Cultivation, Chemistry and Diseases."

Mr. Wright is not only an editor and author but is much of a business man. He is director and consulting botanist of a number of rubber companies, among which may be mentioned Java Rubber Plantations, Langkat (Sumatra) Rubber Co., and Glen Berrie Rubber Co.

H. C. P.



HERBERT WRIGHT, A.R.C.S., F.L.S.

THE CEYLON HANDBOOK AND DIRECTORY and Compendium of Useful Information, to Which is Prefixed a Statistical Summary for the Colony, and Review of the Planting Enterprise Up to July, 1908. Compiled . . . under the direction of J. Ferguson, C.M.G., M.L.C. . . . Colombo: A. M. & J. Ferguson, 1908. [Cloth. 8vo. Pp. LII + 1550 + LV. Price, £1. 1s.]

THIS exceeding full and carefully prepared annual, now appearing for the forty-sixth consecutive year, exceeds last year's issue by 133 pages. The book is arranged on the usual plan, and the increased bulk is due mainly to the growth of Ceylon planting and trade, one of the most important features of which is the new interest, rubber culture. Mr. Ferguson estimates the approximate area under rubber in the colony on July 31, 1908, at

180,000 acres, an increase of about 30,000 within one year. The acreage under rubber alone is 129,565, which compares with 614,023 as the total area under cultivation in Ceylon. There has been an increase of the acreage of rubber planted in tea and in cacao. It is estimated that the rubber exported from Ceylon represents the product of about 10 acres per ton, from which it is easy to calculate the possible production there if all the rubber now planted should ever come "into bearing" at the same rate. The "Handbook" contains full particulars regarding all rubber and other estates in Ceylon, company details, addresses of individuals, and official statistics. Again we desire to congratulate the Messrs. Ferguson upon the excellence of their "Handbook."

GRAPHITE. ITS PROPERTIES, OCCURRENCE, REFINING AND Uses. By Fritz Cirkel, M.E. Ottawa: 1907. [Paper. 8vo. Pp. 11 + 307 + plates and maps.]

THIS valuable monograph has been prepared and is issued under the auspices of the department of mines of Canada in which country a considerable amount of graphite of good quality is found, though of course not in quantities comparable with what is found in Austria and Ceylon. The work is a general summary on graphite, whatever its sources or uses, il-

illustrated with views of mining and refining operations and maps of the regions yielding the material. It may be of interest to note that of the world's production of graphite, approximately 4 per cent. is used for pencil leads and 3 per cent. each for graphite packing and graphite paint. The largest use is still for such refractory articles as crucibles. This work is a companion volume to a report on Asbestos, by the same author, reviewed in THE INDIA RUBBER WORLD, May 1, 1906 (page 246).

NEW TRADE PUBLICATIONS.

THE MECHANICAL RUBBER CO. issue a new general catalogue of the products of their Cleveland Rubber Works which is very much more than a mere trade list. It might better be described as a useful handbook and work of reference for users of Mechanical Rubber Goods. The book embraces sections relating to belting, hose and fittings, packings, mats and mattings, plumbers' specialties, and other molded and mechanical rubber goods. Any section may be obtained separately, if desired. Though this catalogue is illustrated profusely, it is stated by way of introduction that "it is no longer possible to illustrate in a catalogue of conventional size anything like a complete representation of our entire line." The Hose section of 40 pages mentions 36 varieties of hose—acid, brewers', garden, fire, and so on—with almost innumerable brands under each heading, and the other sections of the catalogue involve a like variety of goods. [6 $\frac{1}{8}$ " x 9". 200 pages.]

G & J TIRE CO. (Indianapolis, Indiana) issue "Automobile Tires—1909," being an illustrated price list of their automobile tires and of a varied assortment of tire accessories. [5 $\frac{1}{2}$ " x 9 $\frac{3}{8}$ ". 16 pages.]

GUAYULE RUBBER is the title of a brochure describing the development of the guayule rubber interest and giving an account of the production of guayule rubber by the Madero interests in Mexico. A number of good illustrations are included. The booklet is distributed by the company's New York representative, ED. MAURER. [8 $\frac{1}{4}$ " x 6 $\frac{1}{2}$ ". 31 pages.]

NATIONAL INDIA RUBBER CO., (Bristol, Rhode Island), issue a new catalogue of druggists' sundries and miscellaneous rubber goods, which is an exceedingly attractive piece of work. It is likewise interesting, on account of the variety of articles illustrated, and the apparent endeavor to render even such prosaic articles as water bottles and syringe bags pleasing in appearance. Some very handsome mats are pictured. [6" x 9". 79 pages.]

J. P. WILLIAM & BROTHERS (Henaratgoda Ceylon), issue a new circular (No. 33), devoted to the three new species of "Maniçoba" rubber from Bahia, and particularly *Manihot dichotoma*, or Jejuie maniçoba rubber, which has begun to attract attention in Ceylon, and of which they are prepared to supply seeds and plants. [5 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ ". 8 pages.]

ALSO RECEIVED.

"JIFFY" Fire Hose Rack Co., No. 727 Seventh avenue, New York.—"Jiffy" Fire Hose Rack. 44 pages.
The B. F. Goodrich Co., Akron, Ohio.—A new Tire for Electrics.—Palmer Wch. 8 pages.
Consolidated Rubber Tire Co., New York and Akron, Ohio.—Kelly-Springfield Sectional Tires or Commercial Motor Vehicles. Price List. 8 pages.

GOLF IN AMERICA.

THE twentieth anniversary of the St. Andrew's Golf Club, the pioneer organization of the kind in America, was celebrated by a dinner at Delmonico's, in New York, on the evening of December 10. Some of the most notable golfers in the country were present, including John Reid, the first president of the club. Mr. William H. Taft, president elect of the United States, and who will be the first golfing president, was invited but sent regrets. The founders of St. Andrew's Club did much to promote the popularity of the ancient and royal game in America,

and deserve the lasting good will of the rubber trade on account of the demand which has been built up for balls.

TRAINING DOGS AS CADDIES.

THE heavy percentage of loss of golf balls on the links has led a dog trainer in Pennsylvania to train several dogs to act as caddies. A dog, he says, never tires of the game, but will return a ball to the feet of his master repeatedly, and still be eager to continue the performance. There is no record yet of one of the canine caddies having secreted a ball with a view to realizing cash for it. If this new employment for dogs should become general it may lessen the demand for new golf balls to a degree which will not be relished by the manufacturers.

RUBBER FROM THE IQUITOS REGION.

THE Peruvian Amazon Co., Limited, opened subscription lists in London on December 7 for £130,000 of their 7 per cent. participating preference shares, to provide for the further extension of their rubber exploitation work in the region above Iquitos, in Peru. The company was registered September 26, 1907 [see THE INDIA RUBBER WORLD, November 1, 1907—page 54], with £1,000,000 capital, of which £300,000 is in preference and £700,000 in ordinary shares, of £1 each.

The business was founded in 1889 by Julio Cesar Arana. In 1893 a house was opened at Iquitos. In 1903 the partnership of J. C. Arana y Hermanos (J. C. Arana & Brothers) was formed, and a house opened also at Manaos. The business was transferred in 1907 to the English company here noted, the directorate of which includes Julio C. Arana, of Iquitos, and Abel Araco, of London, two partners in the vendor company. The purchase price was stated at £780,000, payable (1) £50,000 in preference shares, (2) £30,007 in cash, and (3) £699,993 ordinary shares.

The Peruvian Amazon Co., Limited, own large freehold rubber yielding estates convenient to Iquitos, the exploitation of which has been very profitable. The trading profit for the last year before the formation of the new company is stated at £126,424 8s 1d. A large part of the yearly profits, it is claimed, has been devoted to the permanent development of the estates. In addition to these assets the Messrs. Arana have transferred to the company their rights in the Putumayo district, sovereignty over which is now in dispute among Peru, Colombia, and Ecuador. It is stated that whatever may be the political bearing of a final decision, it will not affect the rights of the settlers, but in the accounts quoted in the company's prospectus, results from trading on the Putumayo are not included. The Messrs. Arana are stated to have expended £500,000 in developing this region, where 45 rubber gathering centers are maintained. Their exports of rubber from the Putumayo alone have been, for 8 calendar years:

	Pounds.		Pounds.
1900	33,600	1904	768,320
1901	120,960	1905	1,052,800
1902	275,520	1906	1,397,760
1903	450,240	1907	1,350,720
1908 (first six months)			883,012

The rubber referred to in this article is not subject to the Brazilian export duty, which amounts to upward of 20 per cent., *ad valorem*, but only to the Peruvian duty of about 2 $\frac{1}{4}$ pence [=4.05 cents] per pound in weight.

THERE has lately been under study at Kew a plant, the introduction of which on rubber estates in Malaya is reported to have had a favorable effect in counteracting the growth of the pestiferous "lalang" grass.

PENCILS WITH RUBBERS.—The Joseph Dixon Crucible Co., lead pencil makers, some time ago sent out circular letters to a large number of pencil users, requesting expressions as to their preferences in relation to a number of details. One result is that 10 per cent. of the responses were from those who prefer pencils with rubbers.

The Rubber Trade In Canada.

CANADIAN imports of india-rubber manufactures for the fiscal year ended March 31, 1908, are officially stated to have been in value as follows:

	United States.	Great Britain.	Other Countries.	Total Value.	Duties Collected.
Boots and shoes...	\$58,008	\$300	\$88	\$58,405	\$14,603
Belting	34,900	685	...	35,654	9,755
Clothing and water-proof cloth	15,385	63,925	559	79,869	20,000
Hose	50,150	3,520	23	53,702	18,445
Packing and mats.	72,656	3,979	66	76,701	26,371
Tires	81,555	10,326	2,218	94,099	32,396
All other	353,575	99,616	46,503	499,694	128,239
Total	\$666,307	\$182,360	\$49,457	\$898,124	\$249,908
Total, 1906-07.....	450,939	86,999	31,073	569,011	158,245
Total, 1905-06.....	680,014	99,695	32,034	811,743	100,879
Total, 1904-05.....	634,422	164,996	26,071	825,390	213,607
Total, 1903-04.....	617,471	334,646	26,098	978,215	256,210
Total, 1902-03.....	573,421	440,811	25,579	1,045,811	253,873

[Note. The totals given here for the previous five years are for fiscal periods ending June 30. The year now dates from April 1.]

The principal imports from "Other Countries" were from Germany (\$27,815) and Austria-Hungary (\$15,691).

There may also be noted the following imports, not classified by the customs as "rubber goods," but having a relation to the industry:

	United States.	Great Britain.	Other Countries.	Total Value.	Duties Collected.
Webbing, elastic and non elastic..	\$131,393	\$62,764	\$10,568	\$138,358	\$27,672
Stockinettes for rubber footwear.	49,801	53,473	.....	103,474	7,524
Duck for rubber hose	66,568	7,875	.....	74,443	free
Rubber thread....	1,565	.....	.....	1,565	free

EXPORTS OF CANADIAN RUBBER GOODS.

To—	Value.	To—	Value.
Great Britain	\$53,673	Chili	\$4,549
Australia	47,813	Argentina	472
New Zealand	36,011	Belgium	1,024
Newfoundland	27,463	Other Europe.....	2,321
British Guiana	1,341	United States.....	39,394
Other British.....	1,591	All other	179
Japan	15,295	Total	\$239,983
Italy	8,857		

Export Totals for Former Fiscal Years, Ending June 30.

1901-02	\$322,572	1904-05	\$170,359
1902-03	142,801	1905-06	266,504
1903-04	128,067	1906-07	148,027

Exports Classified—1907-08.

Belting	\$661	Mats and matting....	\$98
Hose	8,633	Clothing	50
Boots and shoes.....	160,712	All other	69,829

Exports to the United States.

Belting	\$403	Boots and shoes.....	\$5,488
Hose	2,555	Not specified.....	30,948

IMPORTS OF RAW MATERIALS.

	Pounds.	Value.
India-rubber and gutta-percha.....	2,556,241	\$2,201,874
Reclaimed rubber; substitutes; hard rubber in sheets.....	2,969,298	729,011
Rubber powdered and rubber waste.....	2,979,516	395,748
Total	8,505,055	\$3,326,623

STATE OF THE FOOTWEAR TRADE.

THE advance in the cost of crude rubber is just now engaging the serious attention of Canadian manufacturers, although the season 1908-09 has been completed for some time. The feeling prevails that prices of manufactured goods will prove

strong for the coming season, though an advance is scarcely looked for. Up to date, the retail trade has been complaining of unseasonable weather. A writer in *The Canadian Shoe and Leather Journal* is of the opinion that no price list should be issued before April 1 at least, since the rubber season in the Dominion is not entirely over before that date and sorting up orders would thus be placed upon a more satisfactory footing. Mention is made of a large city dealer who, a year or two ago, by March 1 was pretty well cleaned out of rubber footwear, and was obliged to sort up. This came just as the new price list was issued, and he was obliged to pay 5 to 7 per cent. more for his goods, although he could not get a cent more from the consumer for them. A subscriber to the *Journal* writes to that paper suggesting that the retailers have grievances which demand attention, and his idea is that the trade subscribe to a fund to enable the government to conduct an inquiry throughout the Dominion in regard to the whole rubber footwear business.

RUBBER FOOTWEAR IN BRITISH COLUMBIA.

CONSUL GENERAL GEORGE N. WEST, of Vancouver, writes that the miners of British Columbia do not use rubber boots and shoes, preferring a leather shoe with a 12-inch leg, retailing at \$8 per pair. Some American rubber boots, at \$12 per pair, are on the market. There are large numbers of lumber men, and, as there is a great deal of wet weather, they use rubber footwear extensively, while the population generally are large users of lighter weight rubber goods.—*Daily Consular and Trade Reports*.

FREE IMPORTS OF COTTON DUCK.

IN the Canadian customs returns for the last fiscal year the "free list" includes this item of imports: "Cotton or linen duck, seamless, in circular form, of a class or kind not made in Canada, for use in the manufacture of hose pipe." The imports under this head were \$66,568 from the United States and \$7,875 from Great Britain—total \$74,443.

This heading supplants "Duck for belting and hose, imported by manufacturers of such articles for use in the manufacture thereof in their own factories." The imports under the old heading for the fiscal year 1905-06 reached \$118,169 from the United States and \$168 from Great Britain—total \$118,337.

* * *

THE Canadian General Electric Co., Limited (Toronto), have declared the regular quarterly dividend of 1¼ per cent. for the three months ended December 31, 1908, being at the rate of 7 per cent. per year.

SOME BRITISH RUBBER NOTES.

IN addition to playing and other balls, made under the Cox patent, which have been a specialty among the products of New Eccles Rubber Works, Limited, of Eccles, Lancashire, from the beginning, that company are now extensive makers of rubber tires, the patents on the principal types having expired, and inner tubes for tires. Other specialties are walking sticks and umbrella handles of hard rubber—smart in appearance, especially when mounted with gold or silver—and dolls and toys in great variety.

The firms interested in the British automobile trade have by no means been uniformly successful of late. Whereas the accounts of A. Darracq & Co. (1905), Limited, show a net profit for the year ending September 30 of £165,505, and the dividends for the year were the same as last—20 per cent.—The Daimler Motor Co. (1904), Limited, present a profit and loss account, showing a net loss of £49,285 17s. 11d.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

AT a recent meeting of the Akron Chamber of Commerce, representatives of rubber companies said that employment would be given to 1,500 additional men in this city within the next two months, on account of the completion of additions to a number of local rubber factories. Under these conditions, manufacturers are concerned about the lack of housing facilities in the city. Immediate efforts will be made by a special committee of the Chamber of Commerce to provide for an increase of 10,000 in the population of the city within the next three years. Rubber manufacturers are already facing what has been termed a small "labor famine" on account of the difficulty in securing men and girls and men sufficiently skilled and properly adapted to take positions in the various departments of the rubber factories. The need is especially for girls. Large display advertisements are being run in daily newspapers, asking for female workers for rubber factory work.

Frank Talbott, assistant treasurer and auditor of the Firestone Tire and Rubber Co., has resigned his position and with G. C. Calbetzor, now general representative of the same company on the Pacific coast, will establish a partnership to handle the agency of the Firestone company in Los Angeles. The agency will be opened in January and will be conducted under the name of the Firestone Tire and Rubber Co. Mr. Talbott's successor has not been determined.

Mr. F. O. Sawyer, No. 3910 Olive street, St. Louis, one of the veterans in the rubber tire trade, has disposed of his business to the Firestone Tire and Rubber Co., who are converting the business into a branch which will be their distributing headquarters for the states of Missouri, Oklahoma, Arkansas, Kansas, and Texas. J. P. Trader will have charge of the branch.

The Miller Rubber Co. have completed a new three story factory building, 100 x 40 feet. It has been put into use to enlarge the company's output in druggists' sundries and molded goods.

A fire in the cement department of the Goodyear Tire and Rubber Co.'s factory on December 8, caused damages amounting to about \$2,000. The blaze was supposed to have been caused by the accumulation of naphtha fumes. In an instant after ignition, the flames filled the room, but fortunately the department is located in a concrete block building which prevented the spread of the fire. Workmen controlled the flames by using the factory fire-fighting apparatus. As a result of the work of a new automobile fire truck in the city department F. A. Seiberling, president of the company, highly commended this type of fire fighting vehicle.

The force at the new plant of the Buckeye Rubber Co. is being gradually increased to prepare for the expected demand for the new Kelly-Springfield pneumatic tire which has been recently placed on the market in limited numbers. The tire is being manufactured in the round, Bailey and flat tread types. H. G. Hodge, Akron manager of the Consolidated Rubber Tire Co., who market the Kelly-Springfield tire, said that when the new factory is operated at full capacity, 200 sets of pneumatics will be produced daily.

All of the large Akron tire companies will be represented on the floors of the big automobile shows at New York. The exhibits will generally be in charge of the New York branch managers of the various companies. They will be represented also at the Chicago show by the local managers there.

The Goodyear Tire and Rubber Co. are gratified over the result of Oliver P. Fritchle's run in an electric of his own make from Denver to New York, where he arrived after 30 days' travel, in which he averaged 100 miles a day over all roads. His electric was equipped with Goodyear long distance "Electric" tires, a type which is designed to consume as little current as possible. Mr. Fritchle arrived in New York with Denver air in three of the tires, but the fourth was punctured in Chicago.

The Goodyear Tire and Rubber Co. have established a branch

in Atlanta, Georgia. O. L. Weaver, formerly in their branch in Cincinnati, is in charge.

The Empire Manufacturing Co. are putting on the market several new lines of goods, such as inner tube casing patches and other automobile accessories. The company have been organized, with C. W. Wickline as president, Forest Firestone, secretary, and M. G. Snyder, treasurer. The capitalization is \$10,000.

An extension of the South Akron reclaiming plant of The Diamond Rubber Co. is under construction. The old three story factory building is being increased in length from 100 to 190 feet. This will mean about a 60 per cent. increase in floor space. A piece of land 13 acres in extent has been purchased by the company near this plant for possible future extensions.

The Motz Clincher Tire and Rubber Co. recently sold the balance of their treasury stock to the amount of \$15,000, out of a total capitalization of \$50,000. An official of the company stated that the money thus realized will be used to extend the vehicle and motor truck tire business of the company. Their product is now made by the Buckeye Rubber Co., and the project of constructing a plant of their own is under consideration. New York and Chicago branches will be established after the automobile shows, with P. E. Bertsch in charge at New York.

Claude Moody, representative of the Pennsylvania Rubber Co. in Chicago, was in Akron lately for a conference with Isaac C. Alden, general manager of the Pennsylvania company. Mr. Moody has the supervision of the company's business from Detroit to Salt Lake City. He was recently transferred from Cleveland.

Mr. James A. Braden, advertising manager of The Diamond Rubber Co., who writes juvenile stories as a pastime, is the author of "The Auto Boys," just placed on the market from the press of the Saalfield Publishing Co.

The Aluminum Flake Co. (Akron, Ohio), report having closed the best year's business they have ever had. Already they have requisitions and contracts calling for over 1,750,000 pounds in 1909. They have exported their product to England, Germany, Russia and Australia, and their foreign business is steadily growing. A contract has been closed with a firm in Berlin to act as agents abroad, which calls for a minimum of 750,000 pounds annually for five years. The company have produced a beautiful aluminum oxide, which they hope to supply in quantities in the near future.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE rubber trade is holding its own in the commercial life of San Francisco, and, on the whole, the report from the rubber houses show a better feeling in the business than existed last month. Druggists' sundries have been moving very satisfactorily, although probably not up to the standard of former years, while the mechanical line is still rather quiet, and while about the same as at this time last year, and while it is not expected to do much in that line during the winter months, yet the mechanical business cannot be said to be quite up to normal. The outlook for the spring months continues to improve, however, and during the past month there have been heavy rains which practically insure another season of good crops, which will have great weight in stirring up a big spring activity, and which has already caused a marked improvement in the departments for rubber clothing and shoes.

The diagonal cross-expansion piston packing made by the Bowers Rubber Works, of San Francisco, which packing is referred to as "Dods" in the firm's advertisement in THE INDIA RUBBER WORLD, will hereafter be designated and known as "Skookum" piston packing. The change was made principally on account of the trademark laws of this and other countries. The word "Skookum," as Mr. Chase, manager of the company,

explains, is from the language of the Siwash Indian tribe, and is the equivalent of the English word "bully," or "extra fine," and is a word which is coming generally into use as an English expression. The Bowers company procured a contract last week for 12,000 feet of fire hose for Los Angeles, California, which makes orders for about 58,000 feet of fire hose taken recently, so that they feel that conditions are pretty good in that line, at least.

Mr. William Gorham, of the Gorham Rubber Co., is building for himself a 44-foot, 50 HP. launch, which, when it is completed, he intends to take down to Los Angeles for use when he is at the southern ports, and he is also going to build a mate to it for use here around San Francisco, in connection with his other launches, and still he says that business is "rotten." Mr. Gorham is in Los Angeles now looking after the business of the branch store there, and at Headquarters in San Francisco the report is that business has kept up fairly well. This firm reports that shipping business is getting active again, as all of the steam schooners are coming back to work, and orders are very frequent from the shippers.

Mr. Griffin, superintendent and manager of the American Rubber Manufacturing Co., whose offices and factory are over at Emeryville, across the bay, reports that business is going ahead with them in a very satisfactory manner. This firm secured the order for all of the 3-inch and a portion of the 2½-inch hose for the San Francisco fire department.

The first and most important of the new system of salt water pumps which are to be constructed for San Francisco to be used in case the water supply system is again incapacitated on account of earthquake, is now being dug at Market and Battery streets, in the midst of the wholesale district.

The Gutta Percha and Rubber Manufacturing Co. report that conditions are naturally quiet now, but are showing improvement all the time. Merchants are looking forward now hopefully and with certainty that conditions will be good in the spring. Not much can be expected before that time in the mechanical line, as the winter rains will make the roads to the mines and lumber camps so bad that practically no goods will be taken in before April.

Mr. Mortimer Smith, of Boston, has been in San Francisco for the past 30 days on a pleasure trip. He is the son of the president of the Boston Woven Hose and Rubber Co., Mr. Joseph N. Smith, of Lynn, Massachusetts.

Mr. Joseph V. Selby, Pacific Coast agent for the Boston Woven Hose and Rubber Co., states that the prospects for the spring business are quite bright, although the business during the past 90 days has been unusually quiet. And yet, he said, with the bountiful rains which we have had all over this coast, and the improved feeling which exists in all mercantile pursuits, everything points to a prosperous business for the coming spring and summer.

Mr. Kanzee, of the Phoenix Rubber Co., states that the factory is running full force and that everything is getting firmly established in their new four-story and basement quarters, in First street. He reports that business is very good in all departments. The firm's new sanitary toilet seat has proved to be a big seller.

Mr. Perkins, of the Sterling Rubber Co., on Second street, states that the druggists' sundry lines continue active, although there is little work for the mechanical lines. Retailers are letting their stock go now, and will not begin to buy until they have taken stock after the holidays, and as only about one lumber mill out of 20 is running, and as that one is using up all of the old belting of the other 19, there is almost no demand from the mills, although just as soon as they all start up again, and he hopes it will be next spring, there will be nothing on hand at all, and business will be rushing.

The Gladiator Rubber and Packing Co. has been incorporated, to carry on the rubber business in San Francisco.

Maurice Gibson, manager of the Fisk Rubber Co., on Golden

Gate avenue, states that business in the rubber tire line is exceedingly good. All of the tire men are agreed that automobiles are being driven more numerous this winter than ever before during the winter season, which has caused an increase in the rubber tire business all around.

ANALYSIS OF A HOT WATER BOTTLE.

A WELL-KNOWN rubber superintendent who has been visiting rubber mills (not in the United States by the way) sends the following description of work done in a rubber factory, but does not give the location, which, perhaps, is just as well.

Rubber manufacturing calls for varied talents, but it has not been apparent until recently that surgery is included. The following is a description of what has to be done in the manufacture of water bottles:

Cutting	1 woman	1/2 hour.	(revolting).
Making	1 woman	1 hour.	(a miracle)
Carrying down and bringing back	1 woman	1/4 hour.	(hard labor)
Examining	1 woman	7 minutes	(interesting)
Dispatching	1 girl	17 minutes	(murder)
Cure		17 minutes.	(quick work).

The manager of this branch of work, our correspondent says, has missed his vocation. He should be in charge of a hospital or a harem.

ARTISTS IN GUTTA-PERCHA.

IT may not be generally known, but the Dyak head hunter of Borneo is not only a picturesque warrior, but quite a sculptor, or more exactly, a modeller. With the various shipments of gutta-percha that come into Singapore are figures of animals made of gutta, some of them showing considerable artistic ability.

The Curiosity Corner of THE INDIA RUBBER WORLD office has several of these figures—tigers, sacred cows, monkeys, and beasts



A SACRED COW, WORKED IN GUTTA-PERCHA.

of that sort. It is said that each of these figures is the trade mark of a family or clan, and that the Chinese traders by these tokens know exactly with whom they are trading. This may be fact or it may be fiction. At all events, the figures are interesting and rare.

THE sales of a certain Fulton street (New York) rubber store, which formerly carried a line of rubber clothing and footwear in the early 80's when Fulton Ferry afforded practically the only transit facility between that section of New York and Brooklyn, amounted, in stormy weather, to \$500 a day. Since the provision of so many other avenues between the two cities, the footwear and clothing departments have been abolished as unprofitable, and the concern at present does a small jobbing and retailing business in mechanical and molded goods.

At the annual automobile show at Olympia, London, during the past month, of the 2,218 cars exhibited 678—or over 30 per cent.—were equipped with "Continental" tires.

News of the American Rubber Trade.

NEW INCORPORATIONS.

CONVERSE Rubber Shoe Co., October 29, 1908, under the laws of Massachusetts; capital, \$250,000. Incorporators: Marquis M. Converse, Joseph S. Capen, and Henry Endicott, Jr. Mr. Converse is president and Mr. Capen treasurer, and Hugh Bullock will be factory superintendent. These, with R. M. Saltonstall, member of a prominent Boston law firm, and Henry Dutton, of Houghton & Dutton, proprietors of a Boston department store, constitute the board of directors. The purpose is to establish near Boston a factory for an extra quality of boots and shoes, to be sold direct to retailers. The selling department will include Harry W. Marden, B. J. Berns, J. E. Folan, W. H. Patrick, and F. E. Harriman, all of whom have been associated with Mr. Converse and are well known in the New England footwear trade. Mr. Converse was at the head of Converse & Pike, in the footwear trade, who in 1890 removed their business from Lebanon, New Hampshire, to Boston, where it grew to large proportions. He resigned in time on account of his health, and the business took the name Tremont Rubber Co., which is still retained. In 1903 Mr. Converse became connected with the Boston house of The Beacon Falls Rubber Shoe Co., incorporated in the following year as The Beacon Falls Rubber Shoe Co. of Boston, which since has been under his management, with the assistance of the Mr. Capen named above.

Converse Rubber Co., October 22, 1908, under the laws of Massachusetts; capital, \$5,000. The incorporators are Colonel Harry E. Converse, president; Harry P. Ballard, secretary and treasurer, and John Robson. These gentlemen are all connected with the Boston Rubber Shoe Co. (Malden, Mass.), with which the name Converse so long has been associated, and the new company doubtless has been formed, as a subsidiary concern, for securing as far as possible rights to the use of the name Converse. It is understood that a line of goods bearing the name of the new corporation is being made.

The Okonite Co., December 11, 1908, under the laws of New Jersey; capital, \$500,000. Incorporators: Willard L. Candee and H. Durant Cheever, No. 253 Broadway, New York; Frank Cazenove Jones, No. 103 Park avenue, New York; John D. Cheever, No. 40 East Thirty-fifth street, New York; and William F. Gaston, Passaic, N. J. Originally the Okonite insulation interest was controlled in America alone. In June or July, 1890, the business was organized on a wider basis, under the English laws, as the International Okonite Co., Limited, with £340,000 capital authorized, to control factories at Passaic, N. J., and Manchester, England. In February, 1901, this company was succeeded by the Okonite Co., Limited, also English. The evident purpose of the reincorporation in New Jersey is to remove the domicile of the company again to the United States.

Cable Pneumatic Tire Co., December 17, 1908, under the laws of New Jersey; capital authorized, \$500,000. Incorporators: John F. Scannell, No. 729 Sixth avenue, New York; Frank A. Magowan, No. 241 Broadway, New York; and Grant Lambright, Newark, N. J. Object, to establish a factory for tires and other automobile accessories of rubber.

Rubber Substitute Co., December 9, 1908, under the laws of New Jersey; capital, \$10,000. Incorporators: Robert Ferrier, Thomas R. Armstrong, and Thomas H. Ross—all of No. 1 Exchange place, Jersey City, N. J. To make and deal in rubber compounds, substitutes, and the like.

Crude Rubber Regenerating Co., December 4, 1908, under the laws of New Jersey; capital authorized, \$50,000. Incorporators: Charles I. Taylor, No. 200 South Clinton street, East Orange, N. J.; Frank H. Parcells, Brooklyn Hills, Long Island; and Thomas H. Beardsley, No. 54 Wall street, New York.

Atlas Rubber Co., November 21, 1908, under the laws of New York; capital, \$50,000. Incorporators: A. G. Bartholomew, Morley C. Bartholomew, and George D. Crafts, all of Buffalo, N. Y.

Mansfield Rubber Co., November 25, 1908, under the laws of Ohio; capital authorized, \$250,000. Incorporators: C. Hautzermoeder and L. Hautzermoeder, Herbert Hornberger, F. M. Bushnell and W. H. Taylor. The new company have organized by the election of Frank A. Wilcox, president; Charles H. Walters, vice president; F. M. Bushnell, treasurer; F. W. Walters, secretary. The equipment of a factory is now under way, with the purpose of making a specialty at first of motor tires and the gradual addition of a line of mechanical goods. Location, Mansfield, Ohio.

Lynn Rubber Co.—A certificate filed in the office of the secretary of state of Massachusetts November 25, 1908, changed to this name the Lowell Rubber Co., incorporated January 20, 1896, removing its principal office from Lowell to Lynn, Mass. The authorized capital is \$5,000. The opening of the Lynn Rubber Co.'s new store was reported in THE INDIA RUBBER WORLD December 1, 1908 (page 114).

Wisconsin Auto and Tire Repair Co., November 27, 1908, under the laws of Wisconsin; capital \$10,000. Incorporators: John J. Rohde, Albert R. Hulick and David D. Smith—addresses not stated.

SALE OF A RUBBER FACTORY.

THE factory building and machinery of the Grand Rapids Felt Boot Co. (Grand Rapids, Michigan), was disposed of at public auction by the receivers, the Michigan Trust Co., on December 16, to Goodspeed Brothers, of Grand Rapids, for \$52,500. The Grand Rapids Felt Boot Co., engaged in the manufacture of felt boots, took on in 1900 the production of rubber overs, with a view to the sale of "combinations." The appointment of a receiver was reported in THE INDIA RUBBER WORLD October 1, 1907 (page 27).

TRADE NEWS NOTES.

It is understood that the Boston Woven Hose and Rubber Co., notwithstanding the falling off in the general rubber business last year, enjoyed a volume of sales within 7 per cent. of the largest year in the history of the company. Within the past two months the normal volume of business has been attained, and even exceeded.

Mr. Herbert A. Githens, after a successful career as general traveling representative of the G & J Tire Co., has been appointed manager of that company.

The Indianapolis Rubber Co. (Indianapolis, Indiana) have filed a permit for the erection of an additional factory building of three stories, and to cost \$25,000.

Among the attractive advertising novelties distributed in the rubber footwear trade of late special mention may be made of a series of show cards on which "Champion Tennis Shoes" are strikingly pictured in "natural" color against a deep red background. Another is an office blotting card on one side of which is pictured, in green, a rubber tree leaf, across which is lettered "American rubbers."

Coupons on the 6 per cent. purchase money bonds of the Tehuantepec Rubber Culture Co. (New York) were payable on and after December 1 at the offices of the Knickerbocker Trust Co.

Mr. A. R. Duryee, after having been connected with Asbestund Gummiwerke, Alfred Calmon, A.-G., at Hamburg, has retired therefrom and was heard from lately traveling in the British isles.

WILLIAM J. B. STOKES.

THE illustration on this page is a portrait of Mr. William J. B. Stokes, president of the Home Rubber Co., vice president of the Joseph Stokes Rubber Co., and treasurer of the Trenton Rubber Manufacturing Co., all of Trenton, New Jersey. He is also treasurer of the City of Trenton (which office he has held for the past 14 years), president of the Masonic Hall Association, and warden of the States Street Methodist Church, at Trenton. Mr. Stokes reflects in his career many of the qualities possessed by his father, who early in life transferred his home from England to America, where he became identified with the iron and steel industry, winning material success and a world-wide reputation as an expert.

The subject of this sketch was born at Pottsville, Pennsylvania, in August, 1857. While a very young man, he started in the coal and lumber business, and later, with his brothers, became interested in the manufacture of rubber. His marked mechanical tastes, a strong individuality and keen business judgment have all contributed to the success of the business with which he is connected. Mr. Stokes is of a genial, frank disposition, making friends readily and keeping them. He takes a keen interest in politics and in the advancement of every good interest in his home city. He is a member of several clubs; identified with many of the foremost charities of Trenton, and an enthusiastic sportsman. He owns a palatial Colonial home on the banks of the Delaware river, his city home in the winter, and a beautiful summer home on the ocean front at Belmar, New Jersey.

THE REPUBLIC RUBBER CO. EXTENSIONS.

RECENT additions to the plant of The Republic Rubber Co. (Youngstown, Ohio) include a new tire building of concrete construction, 65 x 285 feet; also an addition to their calender room 33 x 80 feet, for additional calenders and mills, and an addition to the power room for new engines and boilers. The new additions—all as nearly fireproof as possible—will make possible a largely increased output of goods and the employment of a considerably larger force.

The Republic Rubber Co. of New York—a subsidiary of the above—have recently leased premises at No. 229 West Fifty-eighth street, which will be remodeled for their purposes. In taking over this new store the intention of the company is to consolidate their mechanical goods business in New York with their tire business, as some of the other large manufacturers have been doing.

The success of the Republic company in securing awards from the city of New York for fire hose has been one of the notable recent rubber news items.

TARDY APPROACH OF "RUBBER" WEATHER.

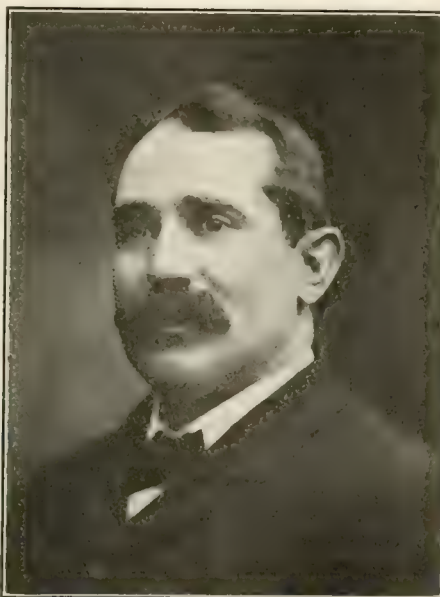
THE first snow and ice bulletin of the season issued by the United States weather bureau was dated December 8, and at first glance it appeared most satisfactory to the rubber footwear trade, as the area covered by the tints indicating snow was exceptionally large. Snow was indicated in 26 states and territories of the 48 composing the Union, but a study of the figures shows that in most cases only traces of snow existed. The greatest depth was 10 inches at Sault Ste. Marie, Michigan, and as high as 5 inches was reported at some points in Iowa. For the most part, however, the amount of snow was not such as to encourage the rubber trade, and more recently the situation has

not been more encouraging. It will be remembered, however, that in recent years it has not been unusual for New Year's to arrive without any general heavy snowfalls, though later in the winter the weather may have been such as to greatly stimulate the demand for rubbers.

The year 1908 ended with general inactivity among the rubber footwear factories. Early in December the following notice was posted at the Millville mill of the Woonsocket Rubber Co.:

Owing to the unfavorable weather conditions we find it necessary to make a temporary cut-down at this mill, the last day's making will be on Saturday, the 12th instant. The first day's making in starting up will be on Jan. 4, 1909.

It was understood that if favorable weather should occur meanwhile the mill might start earlier. No notice was posted at the Woonsocket company's "Alice" mill. The factories of the United States Rubber Co. at Naugatuck and New Haven ran during the latter part of the month on a reduced schedule. More favorable conditions are reported from Canada. On December 12, after 30 hours of continuous snowfall over most of the province of Quebec, it was reported that 14 inches had fallen in Montreal, which was an unusual amount for that time of the year.



WILLIAM J. B. STOKES.

NEW GOODYEAR BRANCH IN BOSTON.

OWING to the steady increase of their New England business The Goodyear Tire and Rubber Co. (Akron, Ohio) have closed a 20 year lease on the building located at No. 669 Boylston street, Boston. The present building is to be replaced with an up-to-date five story structure 90 x 24 feet, of which the main floor is to be used as a salesroom and the basement for applying solid motor truck tires and general workshop purposes. The upper floors will be equipped with a complete repair shop. The new building will be in readiness about May 1 next, after which Manager William T. Teagan will be able to carry a larger stock of goods for the accommodation of the company's New England customers.

"FEDERAL" TIRES IN BOSTON.

THE Standard Tire and Rubber Co. (Boston) have opened an uptown branch to take care of the new "Federal" automobile tire handled by that company.

This tire is made by the Federal Rubber Co. (Milwaukee, Wisconsin.)

RECEIVER FOR THE LAKE SHORE RUBBER CO.

THE Lake Shore Rubber Co. (Erie, Pennsylvania), established some 20 years ago and incorporated in 1893, has gone into the hands of a receiver, Judge Walling having appointed Henry E. Fish to this position. The plant is being operated for the present by the receiver, and the hope is entertained that the business may be reorganized on a stronger basis and continued under the present name.

* * *

Later.—The receiver has announced public sale of all the property of the Lake Shore company, including real estate, buildings, machinery, raw materials, and manufactured products, to take place at Erie, on January 7.

J. SCHNURMANN, NEW YORK.

THE New York business of J. Schnurmann (London) in scrap rubber was started in June, 1907, in the offices of Felix Salomon & Co., No. 140 Nassau street, where Mr. H. Weber had charge of the rubber department. Owing to the continued increase of the business the Schnurmann house has opened its own offices, at No. 150 Nassau street, New York, with Mr. Weber as manager.

UNITED STATES RUBBER CO. FINANCES.

A SPECIAL meeting of the stockholders of the United States Rubber Co. was called to be held at the principal office of the company, at New Brunswick, N. J., on December 29, to take action upon the following resolutions, proposed by the board of directors, and of which the shareholders had notice in a circular issued December 1:

"Resolved, That assent be and is hereby given to the pledge by this company of all or any shares of the capital stock of all or any corporations now owned or hereafter acquired by it, as security for a proposed issue of \$20,000,000 of ten year 6 per cent. collateral sinking fund gold bonds of this company.

"Resolved, That the board of directors be and they are hereby authorized from time to time to take appropriate action with reference to the issue and sale of not exceeding \$20,000,000 of ten year 6 per cent. collateral trust sinking fund gold bonds of this company, to be secured by the pledge of shares of stock of subsidiary companies of this company under an indenture to be executed and delivered to the Central Trust Co. of New York, or such other trust company as shall be designated by the board of directors as trustee.

"Resolved, That the form of collateral indenture securing said ten year 6 per cent. collateral trust sinking fund gold bonds, to be presented at said meeting, be in all respects approved and the execution and delivery of said collateral indenture be authorized."

The proposition of the directors looked to the sale of \$15,000,000 of these bonds for the purpose of funding \$8,000,000 United States Rubber Co., maturing September 15, 1909, and \$4,500,000 Boston Rubber Shoe Co., maturing September 15, 1910, both issues being redeemable March 15, 1909, and to provide for the present floating indebtedness of the company. The circular stated: "A sale is to be made to a syndicate (in which some of your directors will participate), upon terms which are deemed more favorable to the company than those of any former refunding, and which will be reported at the stockholders' special meeting." It is further stated:

"On March 31, 1902, the total amount of outstanding funding notes and Boston Rubber Shoe Co. debentures was \$16,800,000; on March 31, 1908, by payments out of earnings this had been reduced to \$12,800,000. At the same time the book surplus had been increased by the sum of \$6,142,802.83. For the year ending March 31, 1902, sales were \$21,196,429.81; for the year ending March 31, 1908, \$41,860,425.96. These figures do not include the transactions of the Rubber Goods Manufacturing Co."

The shareholders, at the special meeting, gave their assent to the proposal of the directors.

UNITED STATES RUBBER CO.'S SHARES.

TRANSACTIONS on the New York Stock Exchange for four weeks, ending December 19:

COMMON STOCK.

Week November 28	Sales 3,635 shares	High 36½	Low 35
Week December 5	Sales 3,330 shares	High 36	Low 34½
Week December 12	Sales 2,100 shares	High 34¾	Low 34
Week December 19	Sales 2,400 shares	High 34½	Low 32½

For the year—High, 37½, Aug. 7; Low, 17½, Feb. 26.
Last year—High, 52½; Low, 13½.

FIRST PREFERRED STOCK.

Week November 28	Sales 4,500 shares	High 107	Low 105½
Week December 5	Sales 3,175 shares	High 108	Low 106½
Week December 12	Sales 2,050 shares	High 108	Low 107
Week December 19	Sales 1,560 shares	High 108	Low 105

For the year—High, 108, Dec. 2; Low, 76, Feb. 19.
Last year—High, 109¾; Low, 61¼.

SECOND PREFERRED STOCK.

Week November 28	Sales 1,250 shares	High 75½	Low 74
Week December 5	Sales 500 shares	High 75½	Low 74
Week December 12	Sales 605 shares	High 75	Low 74½
Week December 19	Sales 600 shares	High 75	Low 72

For the year—High, 75½, Nov. 27; Low, 42, Feb. 21.
Last year—High, 78½; Low, 30.

POPE MANUFACTURING CO. REORGANIZED.

INCORPORATION papers were filed under the laws of Connecticut on December 12 for a new Pope Manufacturing Co., being a reorganization of the New Jersey company by the same name which has been in receivers' hands since August 14, 1907. The capital stated is \$6,500,000—\$2,500,000 preferred and \$4,000,000 common, all at \$100 per share. The incorporators were Albert L. Pope, Colonel George Pope, Charles E. Walker, and Wilbur C. Walker—respectively vice president, treasurer, second vice president, and secretary of the company in liquidation. The directors chosen are Harry Bonner, Frederick H. Ecker, August Heckscher, Louis E. Freedman, Albert Stickney, A. W. Pope, Henry B. Poor, A. L. Pope, and Milton Ferguson. It will be seen that Colonel Albert A. Pope is not included on the board.

The original Pope Manufacturing Co. was organized by Colonel Pope in the early days of the bicycle industry and achieved great success. The company was included in the \$40,000,000 American Bicycle Co. formed in 1899 and when this company went into liquidation what remained of the assets was taken over by Colonel Pope, who organized a new Pope Manufacturing Co. in 1903, with an authorized capital of \$22,500,000. The purpose was to revive the bicycle industry if possible, and to engage largely in the manufacture of automobiles. This company made a voluntary assignment in 1907, since which time some of the numerous factories controlled by it have been disposed of and others have been operated at a profit by the receivers. The creditors have been paid in full, with interest at 6 per cent.

A GOODLY SUPPLY OF RUBBER.

It has often been jokingly suggested that all rubber manufacturers did not use rubber. Indeed tradition has it that at one time the ubiquitous Magowan, in order to prove to a customer that he really knew what Pará rubber was, opened his safe and produced the factory's stock for temporary inspection. That



"A GOODLY SUPPLY OF RUBBER."

all manufacturers to-day do use rubber and the best, however, goes without saying, else why should rubber be so high? Right in line with this thought, the prettiest factory stock we have seen of Pará rubber in a manufacturer's storehouse is shown in the accompanying reproduction of a photograph taken at the storehouse of the Hood Rubber Co., East Watertown, Massachusetts.

CHEAPER RATES FROM THE WEST.

THE Merchants' Association of New York have received advices that the Rock Island-Frisco system has authorized merchants' rates to New York for the spring of 1909, from all points reached by its line, the special rate being 1½ fares for the round trip. It will be in effect on different dates from January 16 to the end of February, with a 30-day return limit. This new movement places merchants in the far West and Southwest on an equality with those in nearby centers, who have enjoyed reduced rates for a number of years.

RUBBER GOODS DIVIDEND.

THE thirty-second regular quarterly dividend of $1\frac{3}{4}$ per cent. on the preferred shares of the Rubber Goods Manufacturing Co. was payable on December 15. The last preceding dividend was payable October 29.

CONSOLIDATIONS IN THE FOOTWEAR TRADE.

THE recent purchase by Hamilton-Brown Shoe Co. (St. Louis) of the old established firm of Batchelder & Lincoln Co. (Boston), unites the two largest shoe markets in the world. The interest to the rubber trade lies in the fact that these two houses had become such important distributors of rubber footwear. The shipments of the St. Louis house alone have amounted lately to about \$12,000,000 a year of goods of all kinds. The Boston business took its name from E. B. Batchelder, who died in 1878, and Joseph B. Lincoln, who lived until 1895, after which the business became a corporation. The manager of what now has become the Boston house of Hamilton-Brown Shoe Co., at Nos. 604-610 Atlantic avenue, is Mr. H. D. Peyton, who has been connected with them for some time in the West. In New York the business of Batchelder & Lincoln Co. is at No. 146 Duane street, has been taken over by Nathaniel Fisher & Co., whose place was next door, and the combined premises give them a frontage of 85 feet, seven stories high, thus doubling their capacity for business. Hamilton-Brown Shoe Co. are featuring, in the way of rubber footwear, the Lyscoming and Boston lines.

Another important consolidation in the footwear trade is that by which Edwards-Stanwood Shoe Co., of Chicago, becomes absorbed by Smith-Wallace Shoe Co., of the same city, the combined business to be continued under the latter name. The Smith-Wallace Shoe Co. have arranged to double their former capital, in view of the new arrangement. Both the firms named have been long established, and in the consolidated form the business becomes one of the largest in footwear in the world. They may be expected to continue to be large distributors of rubber boots and shoes.

CALENDARS FOR 1909.

THE first calendar for the New Year to reach THE INDIA RUBBER WORLD offices from the trade is an artistic production, of an original character, got out by the Revere Rubber Co. (Boston). There is a separate large leaf for each month in the year, each differing from the other, and all appropriate to the trade to which this company belongs.

The Rubber Products Co. (Barberton, Ohio), mount their calendar on a card $14\frac{1}{2} \times 23\frac{1}{2}$ inches. It carries a reproduction of "Grace," from a painting by J. A. Lange—the interpretation of a type of feminine loveliness that has made the artist famous.

The calendar of J. H. Stedman & Co., Inc. (Boston) is embellished with a large and handsome photogravure, "The Mill in the Forest."

Consumers' Rubber Co., (Bristol, Rhode Island), send out with their compliments a tastefully got up calendar on which is displayed an American eagle above the "Stars and Stripes," in colors.

New Jersey Rubber Co. Lambertville, N. J.), again have distributed to their friends in the trade a "Handy" memorandum desk calendar, with a separate leaf for each day in the year, which cannot fail to be appreciated by those who receive it.

TRADE NEWS NOTES.

THE co-partners in the firm of Philip Broomfield & Co., rubber scrap dealers, of Boston, have petitioned the Superior Court for the appointment of a receiver, and the court has appointed Clarence C. Colby to that position. The proceedings, it is understood, have been instituted as a step in bringing about a dissolution of partnership.

Brockton Rubber Heel Co. (Brockton, Mass.) is the name of a new concern, of which the proprietors are Wallace C. Flagg and C. Gust Nelson. They are in a position to accept business from parties who want a special heel or trade work.

PERSONAL MENTION.

MR. HERBERT L. SATTERLEE, who lately accepted the position of assistant secretary of the navy, at Washington, is president of the Habirshaw Wire Co. (New York).

Mr. Herbert Du Puy, who has been mentioned in the newspapers of late as an extensive purchaser of real estate in New York city and at the same time disposing of Pittsburgh properties, is known to the rubber trade as president of the Pennsylvania Rubber Co. (Jeannette, Pa.).

Mr. Thomas F. Ryan, of New York, reputed until recently to be a director in 34 corporations, has resigned from most of the boards, with a view to his ultimate giving up of business cares. One of the boards from which he retired is that of the Continental Rubber Co. of America. At the last annual meeting of the American Congo Co., Mr. Ryan was elected a director, but declined to accept election. A sketch of Mr. Ryan appeared in THE INDIA RUBBER WORLD, December 1, 1906, (page 72).

At the luncheon given by Baron Schlippenback, the Russian consul general at New York, on December 18, attended by about 150 diplomats, lawyers and business men, to celebrate the Saint's day of Czar Nicholas, Mr. Charles R. Flint was presented, on behalf of the Czar, with a "charka"—a rock crystal goblet set with rubies and diamonds, the same being a token of his Majesty's friendship and appreciation of the work done by Mr. Flint in behalf of Russia during the war between that country and Japan. Mr. Flint was helpful to Russia in the matter of supplying submarine boats, and he and Mrs. Flint were entertained frequently at St. Petersburg. Mr. Flint will be remembered in the rubber trade as the chief organizer of the United States Rubber Co., and the Rubber Goods Manufacturing Co.

Mr. George Louis Richards, so long connected with the Boston Rubber Shoe Co., has been re-elected to the office of mayor of the city of Malden, Massachusetts. He has been connected with the municipal government there since 1890, in which year he was first elected a member of the common council.

Mr. Arthur W. Stedman, of George Alden & Co., sailed from Boston for Europe on December 29.

Mr. Leo. F. Nadeau, of La Nueva Providencia Rubber Co. (Providence, Rhode Island), spent the past month in Guatemala, where the company's plantations are located.

TRADE NEWS NOTES.

GROUND was broken on December 21 for the projected factory of the Converse Rubber Shoe Co., a new company, the incorporation of which is reported in another column. The location is Malden, Massachusetts, on Pearl street, near the Edgeworth station, and the plans call for a three-story concrete building, with steel skeleton and brick trimmings, 170 x 60 feet. The factory is expected to be in operation about March 1.

The factory of the National India Rubber Co. (Bristol, R. I.,) was reported recently to be busy in all departments, including lawn tennis goods, insulated wire, druggists' sundries, and the mechanical fabric department. Manager Le Baron C. Colt was quoted as looking for a prosperous winter at the factory.

The rubber footwear manufactories generally announced a shut down of two days for the Christmas holidays, closing Thursday night until Monday morning.

Theodore Hofeller & Co. (Buffalo, New York), in consequence of the necessity for larger quarters for their scrap rubber trade, has removed to their new offices and warehouses, at Nos. 206-220 Scott street.

Boston Belting Co. send to their friends a New Year's greeting in the shape of a representation of an old candle, flickering down in its socket, emblematical of the old year, together with another candle, to substitute for it, to introduce 1909.

Mr. Harry T. Dunn, president of The Fisk Rubber Co. (Chicopee Falls, Massachusetts), after a visit to the West as far as Kansas City, reports a healthful condition of the tire business in that region, and a great demand for removable rims.

The Proposed Para Rubber Syndicate.

THE rubber importing interests of the United States and Europe have been much concerned of late over reports from Pará of a movement having for its evident object the placing under larger control of Brazilian interests the exportation of rubber. The actual production of rubber on the Amazon and its preparation for market have always been almost solely under Brazilian control. The New York importer, for instance, simply buys the rubber required by his customers at two or three ports in South America, without regard to how it may have reached the primary markets. While nothing definite appears to have resulted as yet, it may be of interest to review the situation as far as developed.

Under laws existent in Brazil since 1903—particularly a decree of the Federal government, No. 979, of January 6, 1903—syndicates may be organized in the agricultural and rural industries "for the defence of their interests," including all the benefits of coöperation, the foundation of credit banks, and the enjoyment of various favors from the government. The benefits of such legislation, it is understood, are to be participated in only by Brazilians.

Recently the legislative assembly of the state of Pará has approved of a proposal to extend definitely the provisions of the decree of 1903, to the rubber interest, the wording of the proposal, introduced into the chamber of deputies by Senhor João Cheves, being as follows:

Be the Governor authorized to concede to Syndicates duly authorized, in accordance with the Federal law No. 979, of January 6, 1903, which are to be founded in this state and recognized by the state government with the exclusive intent to associate for common intent and in benefit of their interests as *aviadores* of the rubber industry, or producers of this commodity, a diminution in the value of export duties on Fine and Medium rubber, exported abroad directly by the mentioned Syndicate on the basis of the following *pasta* table—

Up to 5,246 milreis per kilogram.....	22 per cent.
From 5,250 to 5,500 milreis per kilogram.....	21 per cent.
From 5,501 to 5,800 milreis per kilogram.....	20 per cent.
From 5,801 to 6,100 milreis per kilogram.....	19 per cent.
Over 6,100 milreis per kilogram.....	18 per cent.

This disposition to be immediately executed as soon as the Executive power draw it up. The Executive power to take the necessary provisions that the favors of this disposition shall not be attributed to others but those whom it intends to benefit.

The foreign houses engaged in the export of rubber from Pará have united in a petition to the governor of Pará protesting against his approval of this measure. Furthermore, the various houses in New York, Liverpool, and London, with which these firms are affiliated, have appealed, through their respective home governments, in protest to the Federal government at Rio de Janeiro that the proposed action at Pará is inconsistent with the Federal constitution of Brazil, which guarantees equal rights to all persons in trade, be they Brazilians or citizens or subjects of any other nation. It is pointed out in these protests that the effect of the proposed law would be to give Brazilian exporters of rubber an advantage over foreign houses of at least 4 per cent., whereas the trade to-day is worked upon a basis of $\frac{1}{2}$ to 1 per cent.

The New York signatories to the protest sent through the United States state department are Messrs. New York Commercial Co., General Rubber Co., Poel & Arnold, and A. T. Morse & Co.

The signatories to a communication to the London Chamber of Commerce are Messrs. William Symington & Co., Limited; A. H. Alden & Co., Limited; G. A. Witt, Hecht, Lewis & Kahn; Ed. Schlüter & Co.; and Meyer & Bussweiler, Limited. They ask that the Pará matter be brought to the notice of the British government, with a view to representations to the government at Rio. Besides, Messrs. Heilbut, Symons & Co., of London,

and five other firms in the rubber trade, addressed the London financial house of N. M. Rothschild & Sons, whose reply to the letter concludes: "We can only express the opinion that the Brazilian government is not likely to grant such a concession."

In an interview for THE INDIA RUBBER WORLD, a former consul on the Amazon, now engaged in the commerce in rubber, said, substantially:

"No rubber syndicate such as the proposed law provides for has been formed as yet, so far as known to the trade. Naturally, if formed, it would be composed of *aviadores* (the firms who bring rubber to Pará) and *seringueiros* (the owners of the rubber producing camps). It has been suggested that the proposed syndicate would be backed by the Banco do Brasil, which lately has opened branches at Pará and Manáos, with authority to accept rubber as security for loans, but I do not think so. They probably would lend to such syndicate as to any other merchant. By the way, the advantage to the proposed syndicate would not be alone in the reduced tax on exports—it would enjoy favors from the government in the way of free admission of imports on materials needed for the building of roads, putting on steamers, and otherwise improving their properties for the purpose of extending the trade in rubber."

The interest of foreign exporters is not confined alone to conditions in Pará; they consider the possibility that similar provisions might also be adopted in Amazonas state, of which Manáos is the capital. Besides, there is the great Federal district of the Acre, with a large production of rubber now exported under a duty of 20 per cent., in connection with which the Federal congress lately has considered an amendment to the national budget as follows:

"The president of the republic is authorized to accept for rubber exported from the Acre a sliding scale of duties based upon the price of the product, and in which the present duty may be reduced as low as 14 per cent., in favor of producers who may form a syndicate according to law No. 979, of January 6, 1903."

The protests of American and European houses in the rubber trade apply likewise to the above measure.

ONE RUBBER TAX REDUCED.

A NEW law enacted by the legislative assembly of the state of Pará, which came into force on November 2, is translated thus by *The Brazilian Review*:

ART. 1. During five years, as from January 1, 1909, neither the state nor the municipalities shall be permitted to impose taxes on any of the following: Milho, hulled rice, cotton, and beans.

ART. 2. The municipalities shall not levy a tax on rubber exceeding 150 reis, paper, per kilo. [This equals, at the current rate of exchange, about 2½ cents, gold, per pound.]

Sola Par. No further tax, whatsoever its denomination, shall be levied on rubber, or on rubber producers, including the tax at present levied on *estradas de seringa*.

ART. 3. All dispositions to the contrary are hereby revoked.

The state of Pará comprises upwards of 50 districts, corresponding to counties in the United States, though in Brazil they are self governing to a large degree. They are called municipalities and each is governed by an elective mayor (*intendente*). In the past a local export duty has been imposed, the rate varying in the different municipalities, in addition to the general tax imposed by the state. The collection has actually been made at the Pará custom house, the proceeds being remitted to the various local authorities. The tendency of the municipalities has been to increase the local rates on rubber, and it cannot be stated here what the figure has been of late, but the fact that the new law fixes the maximum at 2½ cents per pound, and this is regarded as a reduction, would indicate that the local

tax must have become burdensome. THE INDIA RUBBER WORLD May 15, 1894 (page 35) mentioned the local rates as then varying from $\frac{1}{4}$ to $\frac{1}{2}$ cent per pound. It would appear that a tax has been imposed also on rubber producing camps, and this is to be removed.

IMPROVEMENT OF PARÁ HARBOR.

SOME time ago the following announcement appeared in *The Brazilian Review*, published at Rio de Janeiro:

Mr. Ian Barry, as representative of the Port of Pará Company, lately signed a contract at the state treasury for the cession on the part of the state of the trapiche Recebedoria to be handed over as from August 1. Mr. Barry also signed a contract granting the company the provisional lease of the foreshores laying between the Marine Arsenal and the Souza Franco dock. For the former cession the state received a sum of 200,000 milreis.

The *recebedoria* at Pará is the state tax receiving office, and through its *trapiche* (warehouse) must pass all the exports from the state, of which rubber forms the larger share. The company Port of Pará, Limited, is a corporation under the laws of Maine [see THE INDIA RUBBER WORLD, March 1, 1907—page 192], formed to work a concession granted by the Brazilian government to Percival Farquhar to improve the port of Pará on a large scale, to facilitate shipping at that point. At present vessels are compelled to lie 3 or 4 miles from the port, with the attendant expenses and relays of transfer to and from lighters. Contracts have been entered into for the improvements, with Messrs. S. Pearson & Son, Limited, and other important firms, and work has been begun, but several years will be required for its completion.

The concession provides, among other things, (1) that during

the existence of the concession no vessel can clear at Pará without payment to the company of certain dues established by the concession; and (2) the handling of merchandise for the custom house and warehousing can only be done by the company, at the same fees as now charged by the custom house. The company has an authorized capital of \$17,500,000 and bonds have been issued to provide funds for carrying on the work. Interest on the bonds will be provided from a special tax of 2 per cent. upon all imports into the port of Pará. The prospectus of the company points out the possibility of large earnings, even at the present volume of traffic, while a steady increase in this volume is looked for.

The interest of this to the rubber trade lies in the fact that through the working out of this plan the company will have a "rake off" on every pound of rubber produced in and exported from the state of Pará, and from the paragraph quoted here from the Brazilian paper it will be seen that the collection of fees on rubber is already in effect. Whether or not this will affect definitely the rubber trade in any way remains to be seen, but it may at least be noted that for the first time certain large foreign interests are becoming concerned with the traffic of Pará, out of which ultimately may grow increased outside investments in the commerce of the Amazon and possibly attempts to control the rubber trade on a scale never before essayed.

THE United States consulate at San Juan del Norte (Greytown), Nicaragua, has been discontinued, and the office transferred to Bluefields. Hitherto only a consular agency has been maintained at Bluefields.

Review of the Crude Rubber Market.

THE market at New York has been rather quiet during the month, without changes of note, the year closing with lower quotations on all Pará grades than at the beginning of December. Comparatively few changes are to be noted in our quotations for Africans and Centrals, and such changes are in the nature of declining prices.

The end of the calendar year, with its holidays, as a rule is taken advantage of by the large rubber manufacturing concerns as a period of stock taking and for repairs, in advance of which the buying of raw materials naturally is less active for a while. This reason, no doubt, helps to explain why, in thirteen of the past twenty years, rubber prices have shown a decline at the close of the year, in most cases to be followed by a speedy rise. There is no fixed rule about this, of course, but the fact seems worth mentioning in view of the lower quotations at this moment than in our report a month ago. That is to say, the latest decline need not necessarily be regarded as a certain step to a lower level than has prevailed for the past three or four months. The rubber footwear industry has had a discouraging factor, it is true, in the unseasonable weather thus far, and most of the mills in this branch have had a longer holiday shutdown than in normal years, though the condition is better than at this time last year. In the tire branch, production has been active all season, and good reports come to hand from many important rubber mills in other lines.

Following are the quotations at New York for Pará grades one year ago, one month ago, and December 30, the current date:

PARÁ.	Jan. 1, '08.	Dec. 1, '08.	Dec. 30.
Islands, fine, new.....	76@77	114@115	113@114
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	82@83	123@124	121@122
Upriver, fine, old.....	84@85	127@128	124@125
Islands, coarse, new.....	50@51	66@61	55@56
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	65@66	92@93	92@93
Upriver, coarse, old.....	none here	none here	none here
Cametá	none here	63@64	61@62

Caucho (Peruvian), sheet..	56@57	74@75	71@72
Caucho (Peruvian), ball..	65@66	90@91	83@84
Ceylon (Plantation), fine sheet	95@96	129@130	129@130

AFRICAN.

Sierre Leone, 1st quality.	94@95	Lopori ball, prime....	112@113
Massai, red	94@95	Lopori strip, prime....	86@87
Benguella	62@63	Madagascar, pinky....	83@84
Accra, flake.....	21@22	Ikelemba	none here
Cameroon ball.....	62@63	Soudan niggers.....	85@86

CENTRALS.

Esmeralda, sausage....	81@82	Mexican, scrap.....	80@81
Guayaquil, strip.....	69@70	Mexican, slab.....	58@60
Nicaragua, scrap.....	81@82	Mangabeira, sheet.....	56@57
Panama	60@61	Guayule	30@33

EAST INDIAN.

Assam	92@93	Borneo	35@45
Late Pará cables quote:		Per Kilo.	
Per Kilo.		Upriver, fine.....	6\$300
Islands, fine.....	5\$300	Upriver, coarse.....	4\$300
Islands, coarse.....	2\$300	Exchange	15 1/4 d.
Latest Manãos advices:			
Upriver, fine.....	6\$800	Exchange	15 7-32 d.
Upriver, coarse.....	4\$800		

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for car-load lot, per pound—show a slight decline as compared with last month:

Old rubber boots and shoes—domestic.....	9 1/4 @ 9 3/4
Old rubber boots and shoes—foreign.....	9 @ 9 1/4
Pneumatic bicycle tires.....	6 @ 6 1/2
Automobile tires	6 @ 6 1/2
Solid rubber wagon and carriage tires.....	7 @ 8
White trimmed rubber.....	10 1/2 @ 11
Heavy black rubber.....	5 1/4 @ 5 1/2
Air brake hose.....	3 1/4 @ 4
Garden hose	2 @ 2 1/4
Fire and large hose.....	2 3/4 @ 3
Matting	1 1/2 @ 1 5/8

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			Total 1908.	Total 1907.	Total 1906.
	Fine and Medium.	Coarse.	PARA.			
Stocks, October 31.....	180	41	221	170	125	
Arrivals, November.....	1205	594	1799	1331	1556	
Aggregating.....	1385	635	2020	1501	1681	
Deliveries, November.....	1249	523	1772	1366	1583	
Stocks, November 30.....	136	112	248	135	98	
	PARA.			ENGLAND.		
	1908.	1907.	1906.	1908.	1907.	1906.
Stocks, October 31.....	520	417	140	265	595	500
Arrivals, November.....	3230	2945	3065	1646	1411	803
Aggregating.....	3750	3362	3205	1011	2006	1303
Deliveries, November.....	3275	3222	2345	1775	1366	923
Stocks, November 30.....	475	140	860	136	640	380
World's visible supply, November 30.....	30.....	2,362	2,796	2,772		
Pará receipts, July 1 to November 30.....	11,060	10,615	10,845			
Pará receipts of Caucho, same dates.....	1,370	1,075	1,110			
Afloat from Pará to United States, Nov. 30.....	700	893	604			
Afloat from Pará to Europe, Nov. 30.....	654	988	830			

Arrivals of rubber (including caucho) at Pará from July 1 to December 21, 1908, amounted to 14,355 tons, against 14,240 tons for the last six months complete in 1907.

Antwerp.**RUBBER ARRIVALS FROM THE CONGO.**

DECEMBER 7. By the steamer <i>Bruxellesville</i> :	
Bunge & Co.....(Société Générale Africaine) kilos	60,200
Do.....	21,000
Do.....(Chemins de fer Grands Lacs)	6,500
Do.....(Comptoir Commercial Congolais)	16,000
Do.....(Société Umangi)	600
Do.....(Comité Spécial Katanga)	600

Société Coloniale Anversoise.....(Belge du Haut Congo)	7,500
L. & W. Van de Velde.....(Cie. du Kasai)	84,000
Do.....	7,000
G. & C. Kreglinger.....(Lobay)	1,250
M. C. Cols.....	1,700
	215,350

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

NOVEMBER 27.—By the Steamer *Benedict*, from Manáos and Pará:

IMPORTERS.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.
New York Commercial Co..	713,800	131,300	144,900	39,500	1,029,500
Poel & Arnold.....	334,600	67,100	120,000	20,900	542,600
A. T. Morse & Co.....	191,200	61,500	237,900	6,500	497,100
Hagemeyer & Brunn.....	49,300	1,400	72,000	.....	122,700
Wm. E. Peck & Co.....	13,200	700	93,100	.....	107,000
General Rubber Co.....	40,900	6,000	69,900	500	117,300
C. P. dos Santos.....	30,800	2,100	4,300	1,200	38,400
Edmund Reeks & Co.....	12,100	1,800	21,800	.....	35,700
TOTAL.....	1,385,900	271,900	763,900	68,600	2,490,300

DECEMBER 7.—By the Steamer *Cearense*, from Manáos and Pará:

IMPORTERS.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.
A. T. Morse & Co.....	117,000	50,700	162,400	9,800	339,900
New York Commercial Co..	195,600	52,500	66,800	17,000	331,900
Poel & Arnold.....	147,000	45,900	94,200	8,900	296,000
General Rubber Co.....	126,600	40,500	91,300	1,800	260,200
Hagemeyer & Brunn.....	73,500	.....	52,800	.....	126,300
Wm. E. Peck & Co.....	35,000	.....	15,200	.....	50,200
Edmund Reeks & Co.....	15,400	1,800	20,500	.....	37,700
C. P. dos Santos.....	35,400	1,100	1,300	.....	37,800
TOTAL.....	745,500	192,500	504,500	37,500	1,480,000

DECEMBER 17.—By the Steamer *Basil*, from Pará:

IMPORTERS.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.
Poel & Arnold.....	148,500	25,400	94,400	11,200	279,500
A. T. Morse & Co.....	139,300	13,200	105,400	3,300	261,200
General Rubber Co.....	28,200	4,600	72,600	.....	105,400
Hagemeyer & Brunn.....	56,400	400	30,400	.....	87,200
Edmund Reeks & Co.....	21,100	2,800	11,900	.....	35,800
C. P. dos Santos.....	7,500	.....	19,100	.....	26,600
Wm. E. Peck & Co.....	10,700	.....	9,900	.....	20,600
New York Commercial Co..	.....	.....	13,500	400	13,900
TOTAL.....	411,700	46,400	357,200	14,900	830,200

[NOTE.—The steamer *Crispin* was due at New York December 28, with 495 tons rubber on board and 25 tons caucho.]

PARA RUBBER VIA EUROPE.

	POUNDS.
Nov. 21.—By the <i>Texas</i> —Havre:	
Poel & Arnold (Caucho).....	22,500
Nov. 23.—By the <i>Baltic</i> —Liverpool:	
Livesey & Co. (Fine).....	11,500
Livesey & Co. (Coarse).....	33,500
Nov. 27.—By the <i>Adriatic</i> —London:	
Poel & Arnold (Coarse).....	33,500
Nov. 27.—By the <i>Zeeland</i> —Antwerp:	
Livesey & Co. (Fine).....	11,500
W. L. Gough Co. (Fine).....	7,000
New York Commer. Co. (Fine).....	4,500
Nov. 27.—By the <i>Orinoco</i> —Mollendo:	
New York Commer. Co. (Fine).....	5,000
F. Rosenstein & Co. (Fine).....	4,500
Nov. 28.—By the <i>Minnetonka</i> —London:	
General Rubber Co. (Coarse).....	22,500
Nov. 28.—By the <i>Campania</i> —Liverpool:	
Poel & Arnold (Fine).....	7,000
Poel & Arnold (Coarse).....	13,500
Poel & Arnold (Caucho).....	78,000
General Rubber Co. (Fine).....	56,000
General Rubber Co. (Coarse).....	11,000
Nov. 30.—By the <i>Brisgravia</i> —Hamburg:	
New York Commer. Co. (Fine).....	35,000
Dec. 5.—By the <i>Lucania</i> —Liverpool:	
New York Commer. Co. (Fine).....	60,000
General Rubber Co. (Fine).....	83,000
Poel & Arnold (Fine).....	85,000
Poel & Arnold (Coarse).....	15,000
New York Com. Co. (Caucho).....	5,000
Dec. 5.—By the <i>Tutorian</i> —Liverpool:	
Poel & Arnold (Coarse).....	15,500
Dec. 7.—By the <i>Arabic</i> —Liverpool:	
New York Commer. Co. (Fine).....	45,000
Poel & Arnold (Fine).....	18,000
Poel & Arnold (Coarse).....	33,500
W. L. Gough Co. (Coarse).....	7,000
Dec. 9.—By the <i>Mesaba</i> —London:	
General Rubber Co. (Coarse).....	56,000
Dec. 14.—By the <i>Celtic</i> —Liverpool:	
Poel & Arnold (Fine).....	85,000
General Rubber Co. (Fine).....	75,000
New York Commer. Co. (Fine).....	15,000
Livesey & Co. (Coarse).....	9,000
Poel & Arnold (Coarse).....	15,000

OTHER NEW YORK ARRIVALS.**CENTRALS.**

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

	POUNDS.
Nov. 23.—By the <i>Advance</i> —Colon:	
Eggers & Heinlein.....	1,500
Piza, Nephews & Co.....	1,500
	3,000

Nov. 23.—By the *Baltic*—Liverpool:

George A. Alden & Co.....	55,000
Nov. 23.—By the <i>Tennyson</i> —Bahia:	
J. H. Rossback & Bros.....	24,000
A. Hirsch & Co.....	2,500

Nov. 25.—By the *Sarnia*—Colon:

New York Commercial Co.....	5,000
A. Rosenthal's Sons.....	4,000

Nov. 25.—By the *Georgic*—Liverpool:

George A. Alden & Co.....	13,500
---------------------------	--------

Nov. 25.—By the *Corsican*—Bahia:

Poel & Arnold.....	125,000
J. H. Rossback & Bros.....	23,000

Nov. 25.—By the *Creole*—New Orleans:

A. N. Rotholz.....	5,000
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Nov. 25.—By the *Chalmette*—Galveston:

Continental-Mexican Rubber Co.....	*106,000
------------------------------------	----------

Nov. 27.—By the *Alliance*—Colon:

G. Amsinck & Co.....	10,000
Roldan & Van Sickle.....	4,500
L. Johnson & Co.....	4,000
Carrilho & Co.....	3,000
Hirzel, Feltman & Co.....	3,000
Piza, Nephews & Co.....	3,500
New York Commercial Co.....	2,000
Demarest Bros. Co.....	1,500
Pablo, Calvet Co.....	1,500
W. R. Grace & Co.....	1,000
Henry Mann & Co.....	1,000

Nov. 27.—By the *Merida*—Mexico:

Jacobs & Allison.....	2,000
H. Marquardt & Co.....	1,000
Scholz & Marteret.....	1,000

Nov. 27.—By the *El Dorado*—Galveston:

Continental-Mexican Rubber Co.....	*110,000
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Nov. 28.—By the *Campania*—Liverpool:

Poel & Arnold.....	67,500
--------------------	--------

Nov. 30.—By the *Brisgravia*—Hamburg:

New York Commercial Co.....	*67,000
American Express Co.....	*7,000

Nov. 30.—By the *New York*—London:

Poel & Arnold.....	90,000
--------------------	--------

Nov. 30.—By the *El Alba*—Galveston:

Continental-Mexican Rubber Co.....	*265,000
------------------------------------	----------

Dec. 2.—By the *Prins August*—Colon:

New York Commercial Co.....	10,000
L. Johnson & Co.....	7,000
A. Santos & Co.....	6,000

G. Amsinck & Co.....	5,500
Mecke & Co.....	3,500
Schulte & Gieschen.....	2,500
A. M. Capens Sons.....	1,500
W. R. Grace & Co.....	1,000
Andean Trading Co.....	1,000
Meyer Hecht.....	1,000
	39,000

Dec. 3.—By *El Valle*—Galveston:

Continental-Mexican Rubber Co.....	*110,000
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Dec. 3.—By the *Majestic*—London:

Poel & Arnold.....	15,000
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Dec. 4.—By the *Manzanillo*—Tampico:

Edward Maurer.....	*90,000
Poel & Arnold.....	*65,000
New York Commercial Co.....	*65,000
Diamond Rubber Co.....	*55,000
H. Marquardt & Co.....	*6,000
	*281,000

Dec. 5.—By the *Morro Castle*—Frontera:

Harburger & Stack.....	2,500
Graham, Hinkley Co.....	2,500
H. Marquardt & Co.....	3,500
A. Klipstein & Co.....	2,000
E. N. Tibbals & Co.....	1,500
	12,000

Dec. 7.—By the *Panama*—Colon:

Isaac Brandon & Bros.....	16,000
Demarest Bros. Co.....	4,000

RECLAIMED RUBBER.**Quantity and Value of Exports, by Countries.**

To—	Pounds.	Value.
France.....	420,673	\$54,594
Germany.....	155,933	25,416
Italy.....	177,596	21,279
Netherlands.....	126,609	21,000
United Kingdom.....	914,046	121,588
Canada.....	1,130,130	171,132
Japan.....	22,987	3,729
Total, 1907-08.....	2,947,974	\$418,738
Total, 1906-07.....	4,550,788	\$665,109
Total, 1905-06.....	4,084,696	511,843
Total, 1904-05.....	a	522,902
Total, 1903-04.....	a	178,335
Total, 1902-03.....	a	93,265

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NEW YORK.					EUROPE.					
EXPORTERS.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.
Schrader, Gruner & Co.	126,074	20,849	85,984	9,749	242,656	70,330	10,356	16,230	11,167	108,083
Adelbert H. Alden	146,363	33,006	53,237	12,214	244,820	63,902	9,159	40,427	3,120	116,608
Scholz, Hartje & Co.	28,981	17,996	77,994	339	125,301	156,041	6,691	11,243	3,085	177,960
E. Pinto Alves & Co.	45,050		95,700		140,750	40,290		1,980		42,270
J. Marques & Co.	39,950	4,250	73,500		117,790	18,870	510	11,880		31,260
Gordon & Co.	34,000	3,400	66,000		103,400	9,520	680		21,043	32,143
Pires, Teixeira & Co.	22,610		27,390		50,000	28,390		24,090		52,480
R. O. Ahlers & Co.	7,200				7,200	40,226		5,555	2,624	48,405
De Lagotellerie & Co.	16,855	510	660		18,025					18,025
R. Suarez & Co.						3,178	71	138	6,773	10,160
Guilh. Aug., Miranda Co.						10,047				10,047
Braga Sobr.						1,600		780	1,624	4,004
Itacoatiara, direct.						8,303		7,936	909	16,248
Manaos, direct.	547,748	141,085	153,518	30,744	873,095	508,685	69,568	41,905	105,186	1,095,344
Iquitos, direct.						99,620	5,622	43,511	60,238	208,991
Total, November	1,014,831	221,006	634,073	53,037	1,923,037	1,065,902	102,057	198,775	216,669	1,584,003
Total, October	786,408	126,769	519,474	55,540	1,488,191	1,208,160	145,315	274,066	37,675	1,865,252
Total, September	547,035	113,001	402,493	32,784	1,095,313	668,513	82,032	171,171	205,221	1,126,937
Total, August	264,500	58,192	453,971	35,035	811,758	502,857	64,119	75,252	361,418	1,003,646
Total, July	303,465	77,885	343,954	109,439	834,743	337,645	33,166	107,931	149,093	627,745



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JANUARY 1, 1909.

No. 4.

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London.

DECEMBER 11.—At to-days auction about 14½ tons Straits and 16 tons Ceylon plantation rubber was offered and the greater part found buyers at prices little changed from what prevailed a fortnight before, though meanwhile the market had been quiet and prices lower. Gow, Wilson & Stanton, Limited, report: "The highest price, 5s. 8d. [=£1.37.8] was realized for very pale crepe. Warriapola biscuits sold up to 5s. 6¼d. [=£1.38.3]. Several lots of clean rambong [*Ficus*] were well competed for, an especially fine parcel from United Serdang, realizing 4s. 8½d. [=£1.14.5]." The average price for plantation was 5s. 1¼d.

[=£1.24.2], against 3s. 7¾d. [=88.7 cents] for the corresponding sale last year.

Lewis & Peat report: "We have had a declining market during the past week. Fair sales have been made including fine hard down to 4s. 11d. [=£1.19.6] for new positions and 4s. 10¼d. for distant."

THE name of the firm known since 1903 as Meyer & Bussweiler, Limited, has been changed (with the sanction of the Board of Trade) to Arthur Meyer & Co., Limited, and the business will be continued under this style without change in other respects. Mr. Albert B. Bussweiler had not been connected with this firm for over a year and a half, and there seemed no reason for retaining his name.

Liverpool.

WILLIAM WRIGHT & Co. report [December 1]:

Fine Pará.—There has been a strong and active demand during the month, and prices—in spite of a pause in the American demand—have again advanced 6d. to 7d. per pound, closing very firm at the advance; the trade generally have bought sparingly; on the other hand all supplies, both in Manaos and Pará, have been eagerly taken up by exporters at prices much above the parity ruling here. We anticipate, with the turn of the year, a better demand from manufacturers, which will counteract to some extent any serious decline in value owing to the arrival of heavy receipts. Closing value, hard fine, 5s. 3½d. [=£1.28.34]; island, 5s. [=£1.21.24].

Antwerp.

At the monthly inscription sale on December 16, out of 533 tons of rubber offered, about 500 tons found buyers at an average decline estimated at 25 centimes per kilogram [=2.19 cents per pound]. In view of the decline in Pará rubbers since the date of brokers' estimations, the results of the Antwerp were regarded as rather favorable. The purchases were mainly for Continental account, a single firm being reported to have taken 375 tons. The offerings were mainly of the better Congo sorts. Several small lots of plantation Pará were included, totaling 9,704 pounds. One lot of Straits crepe, of 6,835 pounds, had been estimated at 16 francs per kilo [=£1.40 per pound].

RUBBER ARRIVALS FROM THE CONGO.

NOVEMBER 16.—By the Steamer *Leopoldville*:

Bunge & Co.....(Société Générale Africaine) kilos	69,300	
Do	41,700	
Do	26,500	
Do	4,000	
Do	16,500	
Do	4,000	
Do	2,000	
Société Coloniale Anversoise.....(Cie. du Lomani)	2,300	
Do	685	
Do	87,000	
Do	40	
Do	3,900	
Kroglinger	12,800	
Charles Dethier.....(American Congo Co.)	3,500	274,225

RUBBER STATISTICS FOR NOVEMBER.

DETAILS.	1908.	1907.	1906.	1905.	1904.
Stocks, Oct. 31.....kilos	662,104	723,816	621,081	554,483	710,860
Arrivals, in November	297,243	532,612	373,370	624,385	336,701
Congo sorts	224,772	499,441	311,315	462,907	267,778
Other sorts	72,471	33,171	62,055	161,478	68,923
Aggregating	959,347	1,256,428	994,451	1,178,868	1,074,561
Sales in November...	355,177	241,146	279,532	543,572	435,835
Stocks, November 30...	604,170	1,015,282	714,919	635,296	611,726
Arrivals since Jan. 1...	4,515,162	4,834,929	5,135,602	5,239,553	5,182,012
Congo sorts	3,807,830	4,156,141	4,014,059	4,006,203	4,263,232
Other sorts	707,332	678,788	1,121,543	1,233,250	918,780
Sales since Jan. 1....	4,917,886	4,477,831	5,155,870	5,145,618	5,181,186

Rubber Receipts at Manaos.

DURING October and four months of the crop season, for three years [courtesy of Messrs. Scholz & Co.]:

	OCTOBER.			JULY-OCTOBER.		
FROM	1908.	1907.	1906.	1908.	1907.	1906.
Rio Purus-Acre.....tons	1,113	952	532	2,515	2,107	1,519
Rio Madeira	304	196	379	1,175	1,036	1,283
Rio Juruá	180	156	194	598	465	522
Rio Javary-Iquitos ..	383	508	353	896	1,034	894
Rio Solimoes	152	209	77	253	395	193
Rio Negro	6	2	10	6	3	14
Total	2,138	2,023	1,545	5,443	5,040	4,425
Caucho	214	222	176	846	784	651
Total	2,352	2,245	1,721	6,289	5,824	5,076

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FEBRUARY 1, 1909.

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CHEAPER RUBBER FROM THE AMAZON.

AN unnamed writer in a London newspaper, quoted on another page of this issue, asserts that in the Brazilian territory of the Acre—possibly the richest forest rubber district in the world—all that the actual gatherer of the rubber gets for his labor is food and clothes. The standard of living in those wilds is not understood to be very high (except in the matter of prices), and this anonymous authority is of the opinion that, under better management than now prevails, it would be possible to feed and clothe the *seringueiros* and lay down good rubber at the river steamer landings at 11 cents a pound or less.

Now the best work at rubber gathering which he has seen done was not above 1,500 pounds in a year of nine months, which, at 11 cents a pound, would work out at \$165, gold, per man. We have seen nothing yet to convince us that rubber can be produced so cheaply anywhere in the Amazon region, though in time without doubt we shall see rubber produced in Brazil much more cheaply than at present, just as the production of steel in the United States has declined so enormously within a recent period. The decline in rubber costs, however, is not likely to occur so speedily as to cause alarm to the managers of well conducted plantations, such, for instance, as are being worked in Ceylon.

One other point in the London newspaper article is of even more interest—the assertion that natives of Barbados are succeeding as rubber workers in the upper Amazon district. It has become customary to assert that no foreigners could work rubber in the climate of northern Brazil, but it is not rational to assume that this condition will always obtain. With rubber from the Acre selling at about \$2,700 a metric ton—this has been the New York price of late—it will not be difficult for intelligent management to bring about gradually a considerable alien force of rubber gatherers.

The fact that the small individual proprietor of *estradas* has not been able in the past to secure foreign workers has nothing to do with the case. The small Brazilian proprietor never had much to do with the extension of the rubber trade any way. The demand for rubber existed abroad, and capital was supplied from abroad—directly or indirectly—to produce the rubber and get it to market.

To-day the spirit of the Amazonian people is antagonistic to foreigners, and they study how the latter, as far as possible, can be prevented from sharing in rubber profits. If the low cost of rubber production figured out in our London contemporary ever comes about, it will be through foreign management and the use of foreign capital. If foreign coöperation is not welcomed, the Amazon states will have only themselves to blame for the encouragement which this spirit will give to the competition of plantation with forest rubber.

EVADING BRITISH PATENT LAW.

ONE provision of the new British Patents act is that a patent granted to a foreigner may become invalid within a certain limit of time in case the invention covered by it is not manufactured within Great Britain "to an adequate extent." An American consul, it seems, has reported to Washington that "it would appear to be perfectly in order to manufacture the parts of a machine in the United States and have them assembled in the United Kingdom. The ground on which this view is taken is that each part of the machine, taken separately, is not a patented article, the patent merely applying to the machine as a whole. No test case has yet been taken in the British courts, and I am informed that the above is the generally accepted reading of the law until such a test case is brought."

The American consular report is not before us at this writing, its substance having come to notice through several British contemporaries, which express the opinion that in case the consul's suggestion is acted upon, "very little time will be lost [in Great Britain] in testing the legality of such method of evasion, and, if necessary, amending the Act."

It would appear to an outsider that certain British court decisions already on record may have a bearing upon the question in point. On March 2, 1904, in the

Court of Appeal, in an action by the Dunlop Pneumatic Tyre Co., Limited, et al. v. David Moseley & Sons, Limited, for alleged infringement of patents, judgment was rendered in behalf of the defendants.

Stating the case broadly, as we understand it, and without going through all the various stages of procedure, it appears that the Messrs. Moseleys' defence was that since they made only certain of the component parts covered by the Dunlop invention, and did not assemble the parts, they were not infringing the patent. Lord Justice Vaughan Williams, in giving judgment on appeal, said that there could be no doubt that the real question was whether the selling of an article—meaning a component article—adapted or intended for the purpose of infringing a patent was an infringement of that patent. In his judgment it was not.

The gist of the matter is this: If A manufactured tire covers, B retaining wires, C inner tubes, and D a certain type of rim, the combination of all these being essential to the construction and working of the Dunlop-Welch tire, no one of the four could be held to have infringed that patent. Nor, according to the court, should the burden be placed upon any particular manufacturer of ascertaining the ultimate purpose to which any individual purchaser might put any cover, tube, wire or what not. It was such legal decisions, by the way, that led the management of the Dunlop tire company, later in the same year, to express their satisfaction over the expiry of their basic patents.

Now, if British inventors, holding patent grants under their own laws, could not protect themselves from competitors at home, whose defense was that they manufactured only component parts and not a complete device or apparatus, what would be the assurance of an American or German inventor, for example, holding a British patent, that he would be protected under it, in the event of establishing a manufacturing plant in Britain, against the same sort of competition?

But to go back to the Dunlop decision, it would seem that only the assembling of the parts of an invention—not merely their manufacture—constitutes infringement of a patent in Great Britain. Then why should not the assembling of parts in that country, regardless of where manufactured, be accepted as "the working of a patent to an adequate extent" in England?

RUBBER AND THE TARIFF.

THE fact that the committee on ways and means of the United States congress for some time past has been giving "tariff hearings" is of no special significance, in spite of the fact that the "platform" on which Mr. Taft, last November, was elected president for the term beginning on March 4 next, commits him to call a special session of congress to deliberate upon the tariff. Not that any want of sincerity in any quarter is suggested, but

the American nation for most of the time since 1789 has been committed to the principle or theory of "protection," and we cannot see that anything has occurred in recent years to indicate a deviation therefrom. To be sure, criticisms of any existing tariff schedule are to be heard in any year, and sometimes from unexpected sources, but in the last analysis the law continues to impose duties on imports for the benefit of home industries. The schedules are changed from time to time, of course, but one particular schedule differs from another about as the New York City Directory differs this year from last—in detail but not in character. One firm drops out and is succeeded by another, but it is still the New York City Directory—published annually from a time antedating the American Constitution. So with the items on the protective tariff list.

The opposition to the government from time to time has exerted itself to gain votes by appealing to the people on the ground that by adopting "free trade" everything could be bought cheaper, but when the question of reforming the tariff was seriously taken up the campaign argument has been offset by the assertion that by the unrestricted admission of foreign manufactures the employment of American labor would be curtailed, and, coincidentally, the buying capacity of the average American citizen lessened. We do not mean to go upon record as to whether the prevailing sentiment is sound, but only to point to what has happened in the past, and to the fact that no recent revolution in the voice of the public has been evident.

The latest argument for a revision of the tariff has been based upon the idea that the "trusts" have put up the cost to the public of their products inordinately, to the distress of the masses. This involves the additional idea that the "trusts" are monopolies, and it remains for any "trust" of this character to be pointed out. It is doubtful whether there is in America any large combination in any industry whose managers are not continually on the alert lest the competition of outside concerns render them unable to pay dividends on their actual capital. And if any industrial combination should put up prices beyond reasonable limits, it would only be to invite competition from abroad to which no tariff schedule yet enacted would hardly impose any restriction.

The congressional committee lately busy with the study of the tariff has devoted much time to hearing statements as to the cost of labor in the United States and abroad in given industries. This, however, is far from being the whole question. Everybody in trade knows that, regardless of the cost of goods in any country, surplus products are liable to come upon the markets of another country at depressed prices, and a comparatively small volume of such goods may demoralize trade to a great degree. It really is on account of such possibilities that many items in every "protective" schedule find place there. We take it that the production of most important lines of goods in the United States is so large that no possible compe-

tition from abroad would be worth considering except on the basis of possible importations now and then of surpluses at a price such as to upset the market and temporarily threaten the profits of dealers without any real benefit to consumers as a class.

A few rubber manufacturers have been before the congressional committee, for one reason or another, but we cannot see that they have thrown much light upon the subject as a whole. No doubt every rubber man who has visited Washington has had some tangible reason, based upon his own individual business conditions or needs, but we do not hesitate to say that the relative consumption of rubber in America and abroad would not be greatly changed from the present figures were rubber goods to be placed absolutely upon the free list. But since there is not the slightest probability of the free list being augmented in the near future, the rubber trade seems to have little concern in the present proposals for tinkering with the tariff.

THE INDIA RUBBER WORLD has always refrained from taking part in political discussions, but since some members of the trade have become interested of late in the matter of higher or lower duties on this or that article of manufacture, it does not seem amiss to deal with a few generalities in the manner here outlined.

LANGUAGES AND TRADE.

IT is reported that the delegates from the United States to the Pan-American Scientific Congress, in session recently at Santiago, Chile, prepared a special report, in behalf of the Association of American Universities, having in view the establishment of closer relations between the educational institutions of North America and South America.

In this connection it is of interest to note that in the *Bulletin* of the International Bureau of the American Republics (Washington, December, 1908) appears an interesting paper on "The Spanish Language in the Modern Curriculum," which relates mainly to the establishment of instruction in Spanish at the University of Washington, Seattle. It appears that the teaching of Spanish began here in 1897, since which time the new department has grown until now three instructors are employed, while the number of students in this language exceeds 200. It is stated that "Students graduating from the University of Washington have found that Spanish often becomes the chief factor in their success or ability to secure positions, and each year positions are being filled by those who know this language and are able to use it in business transactions, or to teach it in those schools where it is being inaugurated and where its growing importance is being recognized."

A pertinent fact revealed by the last annual report of the director of the International Bureau of American Republics is that, while the trade between the United States and South America increases year by year, the share of the United States still remains small as compared with that of Europe, and it is possible that this is due, in an important degree, to the disregard hitherto in North America to the languages of the southern half of the continent.

It has not been sufficiently appreciated in the United States that the solicitor for business south of the Isthmus of Panama must deal with an educated class, and that men of cultivation must be sent in quest of trade. The oldest seat of learning in the United States is inferior in the point of age to the University of Lima by nearly a century, and the university at Quito is nearly as old. It is to be noted that almost every South American governor or president or other important government official is termed "Dr.," the

significance of which is that before being called to office he has a university degree at least of PH.D., whereas the practice in the United States is to confer a LL.B. upon any man who may happen to attain to high office, whether or not he has happened previously to share in a liberal education.

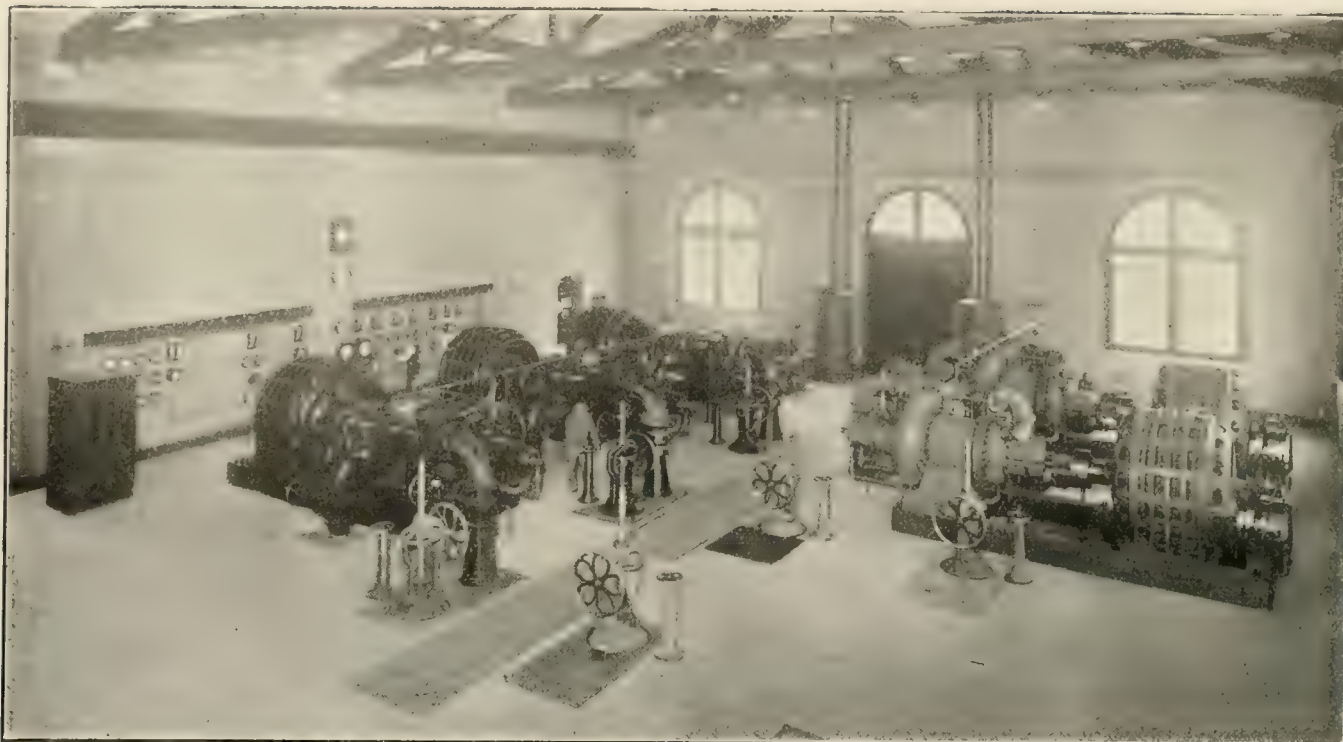
The people of South America buy foreign-made goods in increasingly large amounts year after year, but exports in that direction from the United States are not likely to increase proportionately until such attention is given in this country to the languages of the Latin countries as is considered necessary in Germany, for instance.

It has long been customary for young men of wealth and social standing in Latin American countries, after instruction in their own universities, to give a year or two to a finishing course in European institutions. They have been content usually with classical instruction, but there is a growing tendency among such young men to study technical and industrial subjects, which is being encouraged by their respective governments with a view to the future development and prosperity of the score of republics south of the United States. It is understood that there are now several thousands of Latin American students in universities, colleges, technical schools and industrial establishments in the United States, many assisted by their governments, but the greater majority paying their own expenses. These young men will inevitably become familiar with the English language and with American business customs as well as American manufacturing and engineering products, and the ultimate result can hardly fail to be closer business relations between the republics of the north and the south. The sending of a number of students from the United States to South American universities might prove no less valuable to this country than the studying here by so many South American young men to their own countries.

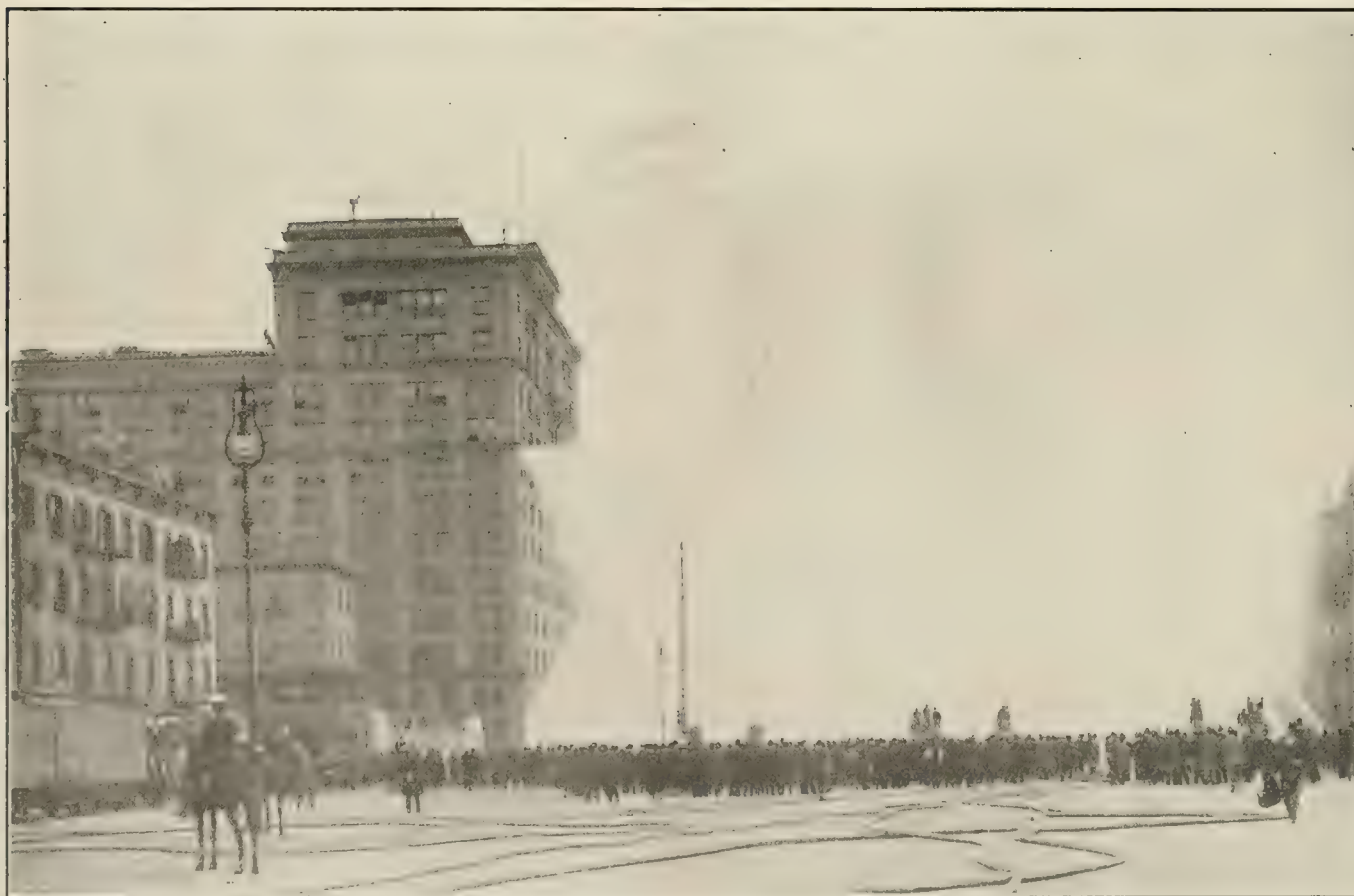
SYNTHETIC (?) RUBBER FROM GOLD ORE.

IN a recent special dispatch to the *St. Louis Globe-Democrat* from Colorado Springs, Colorado, is announced the discovery that in low grade, oxidized Cripple Creek gold ore has been discovered a content "more valuable than its treasure of gold—caoutchouc, or gum elastic." This can be extracted profitably from the ore by a secret process known only to its discoverer, Dr. J. C. Ross. The doctor, who seems to be a practicing physician, claims that after years of scientific investigation and experiment this ore can be transferred into a high grade of rubber, equal if not superior, to that obtained from the latex of rubber trees. He is confident of more than doubling the world's production soon. This news is most interesting and startling and opens up infinite possibilities. If from gold ore, why not silver ore, giving a product that could be compounded 16 to 1? If gold rubber is in sight, why not drop the idea of a gold or a silver basis in coinage, and adopt a rubber basis, thus settling the problem of elastic currency? By the way, was it a doctor or a minister who succeeded in extracting salt water from gold, or was it gold from salt water?

WHEN THE "RAINPROOF" GARMENT first appeared on the American market mackintosh manufacturers predicted that it would injure the rubber proofed garment, and it did. This was simply because people at large expected the "rainproof" to be in all respects just what the rubber proofed was. After a while they discovered that each type of proofing was exceedingly valuable, and the best under certain conditions. It took some time for this adjustment of public opinion to be effective, and to-day not only is rain proofing persisting and growing, but the rubber proofed mackintosh has taken on a new lease of life, particularly in fine garments and business is excellent. In other words, the mackintosh is again a favorite, as it should be.



INTERIOR OF ONE OF THE NEW HIGH PRESSURE STATIONS IN MANHATTAN BOROUGH.



STREET EXHIBITION OF NEW SYSTEM, SHOWING HEIGHT OF STREAMS.
NEW YORK'S SUBSTITUTE FOR THE FIRE ENGINE SYSTEM.

New York's New Fire Protection System.

THE great increase in the height of modern business buildings has made necessary a change in the methods of protection against fire. Hence the development of the new high pressure pumping stations being installed to protect the congested districts of great cities. The fire engine is inadequate in the days of the "skyscraper." The old hand pump was adequate in the era of the cottage and two story house; the steam fire engine answered for the day of the four and five story buildings, but the twenty story structure needs something more powerful. To reach a fire high up in the air there must be an abundant supply of water, there must be sufficient power to force it up, and there must be strong extra heavy rubber hose or iron pipes to carry it.

Several years ago, through the suggestions of Mayor George B. McClellan, of New York, backed up by the Merchants' Association and the Fire Underwriters, appropriations were made to establish in the city high pressure pumping stations designed to protect the great business centers south of Twenty-third street, and the congested tenement districts of the east side. These stations have been completed within the past year, and were put into service during the past summer. They are said by expert engineers to be models, and of being capable under ordinary conditions of putting water to the top of the highest buildings yet constructed. Additional interest in the establishment of these high pressure stations was created in the minds of city officials, business men, and fire underwriters by the destructive fire in the Parker building, a ten story structure of "fireproof" construction which was completely gutted on January 10, 1908. Although there were twenty-five engines, three water towers, and eight hook and ladder companies engaged in fighting the fire, the department utterly failed to cope with flames above the sixth floor. It was a pointed illustration that the old types of appliances known were helpless when the fire was above a certain height. The pumping stations and mains of the high pressure system were hurried to completion, and will be further extended as soon as additional appropriation can be provided. Already \$3,500,000 has been spent, four pumping stations—two in Manhattan and two in Brooklyn—have been built and equipped, and sixty-five miles of high pressure mains have been laid.

The four pumping stations are practically identical in capacity, the two in Manhattan and one of those in Brooklyn being connected with the salt water of the harbor as well as with the fresh water mains. While the system is called the "Salt Water System," it is expected that fresh water will be used except in cases of emergency. The duplex water supply is installed as a safeguard against accidents. Each station is equipped with five motor driven multi-stage centrifugal pumps. The mains are 12 and 24-inch cast iron pipe, and the two present stations are capable of delivering 30,000 gallons of water per minute at a pressure at the hydrant of 300 pounds per square inch. At a recent test of the Gansevoort station (Manhattan) the firemen connected up a line of 1,000 feet of the new 2½-inch high pressure hose. Even with this stretch of hose there was a pressure of 125 pounds delivered at the nozzle.

Chief Croker, of the fire department, was delighted with the tests, and calculates that there could be concentrated at any point near one of the present pumping stations a greater volume of water at a higher pressure than could be supplied by all the fire engines on Manhattan island. With but six of the ten pumps at work, it is calculated there could be taken from eight hydrants thirty-two lines of hose that would deliver streams that could be sent without trouble to the top of a twelve story building. Such an emergency will, however, hardly be necessary. Every tall building, under the law, must be supplied with standpipes, and every floor must have serviceable hose easily accessible. The policy is always to fight a fire from the inside.

In actual service it is proposed to handle this heavy pressure from the valve at the hydrant just as the engineer has handled his engine. A stream that would kill a man at 50 feet distance from the nozzle is too strong for any but the most stubborn blaze. The valve on the hydrant will regulate this so that any pressure desired can be delivered. A system that can turn out a stream as gentle as a garden hose or can throw a column of water on the roof of the seventeen story Metropolis Bank building—as was done in one of the recent tests—appears to be ideal for fire fighting.

The introduction of such a system, however, has occasioned an entire remodeling of fire hose construction. The old quality—which frequently burst under the engine pressure, would be worthless under the new system. The fire companies in New York are now being supplied with heavy 3 and 2½-inch hose, and with special wagons for carrying it. The hose wagon answers alarms just as the old engine used to do, and in three of the down town houses the engines have been entirely removed. When loaded with hose, carrying a full complement of men and the necessary equipment of nozzle tripods, pressure gages and connecting appliances, these wagons weigh six tons, or more than the heaviest engine built.

The specifications for the hose required for the new high pressure system are practically the same as those for other hose ordered by the New York fire department, and are severe. The tests made for the purchases of hose made since the Parker building fire have been rigid, and to succeed in selling the city only the best quality of material can be used. The hue and cry raised against the quality of hose in service at that fire has had the effect of arousing the department to the exercise of great caution, and there is little doubt that the \$250,000 spent for hose since that time has been for absolute value received. About one-third of this amount is intended for the high pressure service.

The specifications call for a tensile strength for the inner tube of 1,100 pounds per square inch, the calculation being based on a wall of an inch thickness. The inner tube and the cover must be made of at least 65 per cent. chemically pure, best Pará rubber, and the cover must have a tensile strength of 950 pounds per square inch. The inner tube must have a thickness of from 1-16 to 1-12 of an inch. A two-inch piece of either the inner tube or the cover must stretch to 12 inches, and after remaining stretched for 10 minutes recover its original size. When tested in 50-foot lengths under hydraulic pressure of 400 pounds to the square inch the expansion must not be more than ⅛ of an inch, and the twist must not be more than one turn. The elongation of the length tested must not be more than 30 inches, and the friction must not exceed 20 pounds in pressure reduction. The duck between the two casings must be manufactured from the best sea island cotton. The warp must stand a strain of 300 pounds per square inch, and the filler must stand 375. Before the recent purchases 40 lengths of hose were given rigid tests, with the result that practically every one of them came within the specifications.

Speaking of this, the manager of a rubber company which has supplied a large amount of hose to the city of late said: "I do not know how the tests may have been made in times past, but I know that in the recent purchase made by the city, there was no chance for a faulty piece of hose to slip in. The engineers were diligent in their work, and every requirement in the rigid specifications was insisted upon to the letter. The city got good hose, and I do not think there is any likelihood of any trouble occurring on this account. The pressure test, I think, was double what will be required, even in the high pressure service. All of the hose sold is fully guaranteed for four years, and any section which bursts or otherwise breaks down within that period—unless it has been injured by some accident—must be replaced by the

company selling it. The city is amply protected, and it has bought the best."

The representative of another rubber company said: "Speaking for our company, I know that our material was all that could have been asked for, and in every test that was made our percentage was practically perfect. The specifications required 400 pounds pressure to the square inch. Our hose was built to withstand 800 pounds pressure. The outer casing and the inner tube were both made of the very best Pará, and all of our rubber material stood without fault the stretching tests required. I do not see how stronger hose could be built than the New York fire department is requiring us to make at this time."

The result of this introduction of the high pressure system means the retirement of the picturesque fire engine from the downtown district. Although it was the best thing of its kind for fighting flames in its day, the high pressure system offers a very much better remedy. The hose carriage is now given the right of way in certain sections over the old-time engines. Water can be turned on in every tall building at a higher pressure than any engine in the city of New York could ever furnish. The delays which traffic and congested streets offer to the arrival of fire apparatus are practically eliminated, because almost every building and certainly every block has its fire apparatus on hand. The racing horses and the clanging engines were a picturesque feature of city life, but, like many other picturesque features, they have been retired by the practical achievements of modern invention.

The fact that the chief of the fire department and all of the veteran fire fighters are delighted with the efficiency and the promise that the high pressure system offers indicates that it is an improvement that has come to stay. As the service is made better it will be extended, and it is not out of reason to expect that the fire engine will within a few years be relegated exclusively to the outlying sections of the city and to suburban districts.

Mayor McClellan, in his annual message to the board of aldermen of New York, dated January 4, said:

"The almost immediate effect on insurance rates is one of the most gratifying results of the installation of the high pressure service. On December 9 last the New York Fire Insurance Exchange ordered a general reduction of rates in the Manhattan high pressure zone. This reduction, I am reliably informed, will mean an immediate saving in premiums of \$500,000 a year, and is to be followed shortly by another reduction."

SCRAP RUBBER IN RUSSIA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your issue of December 1 (page 87) I have read the article headed "Russian Tax on Scrap Exports." Regarding this subject I should like to say:

First, that it is still very doubtful whether Russia will yield in repealing the export duty on old rubber, and while such concession may be made after a while, it will not be very soon.

Second, if Russia should yield, it will have no effect on the price of old rubber shoes, because the stock of old rubber shoes in Russia is almost exhausted, and the rubber factories in Russia are now in need of much material.

The American rubber reclaiming works could only gain through it, since the Russian rubber factories will then not be able to compete with them in the sale of reclaimed rubber. Now the Russian rubber works buy the old rubber shoes by 1 ruble 50 copecks per pood (Russian weight) cheaper than the American rubber manufacturers, and as there is no export tax on reclaimed rubber in Russia, the Russian manufacturers are at present enabled to compete with the Americans. But if the export duty in Russia should be stopped, this will no longer be the case, for then the Russian manufacturers will get the old rubber shoes no cheaper than the American works.

Odessa, December 25, 1908.

MERCHANT.

THE OBITUARY RECORD.

JOHN JOSEPH BANIGAN, elder son of the late Joseph Banigan, a leading rubber manufacturer, died of apoplexy on December 31, 1908, at Mount Clemens, Michigan, in his forty-sixth year. Joseph Banigan was the founder of the Woonsocket Rubber Co., and later of the Joseph Banigan Rubber Co., and in the interval was president for three years of the United States Rubber Co. John J. Banigan was born in Roxbury, Massachusetts, July 7, 1863. He was graduated from St. John's College, Fordham (New York), and during the lifetime of his father was associated with the corporations controlled by the latter. He married Mary C. Davis, a daughter of the late Richard Davis, a prominent dry goods dealer in Providence, who survives with three sons—Joseph, Richard Davis, and John Joseph Banigan, Jr. Mr. Banigan's brother, William Bernard Banigan, died in February, 1901.

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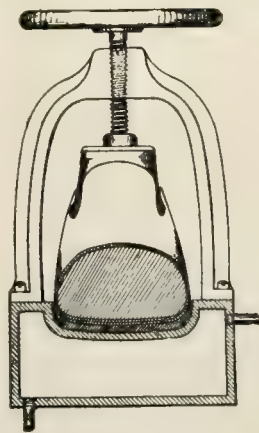
R. LINDSAY COLEMAN, who died recently at his home in Somerset, Virginia, was some time president of the Western Wheel Works (Chicago), an important bicycle manufacturing concern. When this company became a part of the American Bicycle Co., he was for a while president of the latter, at a time when it controlled a number of rubber tire factories. He was one of the receivers of the American Bicycle Co., in the first steps toward its liquidation.

* * *

FERDINAND HECHT, since 1881 a member of the firm of George Borgfeldt & Co., importers of rubber goods in New York, died on January 4 in Berlin, where he represented the European interests of his house. He was born in 1853 at Nesselroeden, Germany.

A NEW RUBBER SHOE MACHINE.

E. A. SAUNDERS has always had original ideas and notably sound ones, and it is therefore of more than passing interest to the shoe trade that he has brought out a new shoe-making machine. To be really exact, it is not a shoemaking machine—it is a combination of a dry heater and a press. The press part engages only the sole and the heel, and the heat is so graduated that vulcanization takes place at the same rate as the upper, which is not in a press, but is cured in hot air. The mold-heater is exceedingly simple, and looks perfectly practicable. The product should be in appearance better than the ordinary shoe, the whole of which is cured in dry heat without pressure. The invention here referred to is covered by United States patent No. 905,105.



TARIFF CONVENTION CALLED.

A CALL for a National Tariff Commission Convention, to be held at Indianapolis, Indiana, on February 16-18, has been issued by a number of representative organizations, including the National Association of Manufacturers, the Merchants' Association of New York, Boston Chamber of Commerce, Western Association of Shoe Wholesalers, Farmers' National Congress, boards of trade and chambers of commerce in cities throughout the country, and various other bodies. The object is to promote the establishment of a permanent, non-partisan, semi-judicial tariff commission, for the purpose of making studies pertinent to the tariff question.

The Past Year in the Crude Rubber Trade.

REVIEWED BY LONDON HOUSES.

THE London firm of Lewis & Peat, in their review of the rubber market for 1908, devote particular attention to the increased volume and increased regularity of the supplies of plantation rubber, which they believe to be used now by practically all manufacturers, large and small. In regard to the situation generally they say:

"With the greatly enhanced values of fine Pará and the enormously increased consumption shown by the heavy deliveries to all parts, consumers turned their attention to medium grades, and the whole of the enormous accumulated stocks disappeared and went into consumption. These facts speak for themselves and show the very healthy state of the rubber trade generally, notwithstanding the constant complaints of bad trade and slack business. Nine months ago we had enormous stocks and low prices; to-day we have exceedingly small stocks and excellent prices and a good demand.

"One result of the very heavy decline in the values early in the year of medium grades and wild rubbers (other than Pará) has unquestionably been to enormously decrease the production and collection of a great many sorts, and hence our stocks have not been replenished by them, and it is very doubtful if they will be, if supplies of Plantation are available and sufficient to meet the present large and ever increasing demand.

"It is impossible to give any forecast as to prices in the future, but we are of opinion that fluctuations will not be heavy for some time to come, and we look for a continued good demand both for fine Pará and Plantation—a demand sufficient to take and consume at satisfactory prices all the Amazon and plantations are likely to send us at present."

Lewis & Peat issue a chart of comparative prices of wild and plantation "Pará" rubber for the past four years. Prices of the two classes have invariably risen or fallen concurrently, though not always at the same rate. The price difference between wild and plantation rubber has diminished with considerable regularity. Thus in May, 1905, Plantation sold at a shilling above the highest quotation for wild rubber, while in the summer of 1908, for a brief while, the difference was less than 2 pence. The latter condition was exceptional, however. The highest quotation for wild Pará rubber during 1908, shown on the chart, was 5s. 5d. [= \$1.31.7], while Plantation sold up to 6s. [= \$1.45.9]. The lowest for Plantation during the year was 3s. 2d., while wild Pará declined to 2s. 9d.

* * *

S. Figgis & Co. in their annual review likewise draw attention particularly to the development of plantation rubber as a market factor. They introduce comparative figures to indicate declining production in Africa and in most regions in America except in the Amazon valley—wild Pará rubber. "The rapid fluctuations and extraordinary rise in values," they say, "appear hardly due to natural or normal causes, but the world's demand has been more than equal to the reduced supply, and at some periods our stocks have been remarkably small, especially of fine Pará. Total stocks are now smaller than for many years. . . . English consumption of rubber has been very large, that of France and Germany good, Russia only moderate, and America much less till quite recently. We think invisible stocks must be large in America, owing to her very free buying this last three months. The European stocks are exceedingly small."

Lewis & Peat state that the bulk of the plantation crop now comes in crepe form, and they think it can be taken as the most satisfactory grade. S. Figgis & Co. refer to a further general improvement in preparation of plantation sorts, with more fine

clean crepe. They emphasize particularly the importance of sending in clean rubber, and, where practicable, of keeping separate the product of immature trees.

THE HAVRE MARKET.

A REVIEW of the rubber trade at Havre for 1908 has been issued by Jean Roederer, broker, of that port, from which we quote:

"During the past year our market has not witnessed a very material development, the severe crisis that has prevailed during a portion of the year having rendered impossible the exportation of a portion of the supplies that were customarily sent here; in addition a marked decrease has occurred in the importations from Pará. The imports at Havre have been:

	1906.	1907.	1908.
From the French Congo Kilos.	314,025	892,655	884,733
Other sources (except Pará)	339,847	232,321	130,000
From Pará	3,738,955	3,339,147	2,483,444
Total	4,391,927	4,464,123	3,498,177

"The quality of the rubber imported from the French Congo remains excellent and it finds ready and profitable sale in this market. The status of the product, which was very uncertain at the end of the last year, was still worse in January and February, at one time Pará touching 2s. 9d. The consequence of this was an absolute lack of sale or selling under price of varied kinds, put in the background by the low price of Pará and Peruvian varieties. The demand only revived in March, when the American crisis appeared to have been inspired. Nevertheless, business did not attain any great development until autumn. Since then, the sales booked have been effected with the greatest activity. The considerable advance accorded to Pará did not maintain itself altogether and the year closed at 5s. to 5s. 2d."

TOTAL IMPORTS OF RUBBER AT HAVRE.

	Kilos.		Kilos.
1897	1,814,000	1903	1,862,000
1898	2,138,000	1904	2,188,000
1899	1,850,000	1905	3,201,000
1900	2,350,000	1906	4,391,927
1901	2,241,000	1907	4,464,123
1902	1,948,000	1908	3,498,177

CONGO RUBBER AND THE ANTWERP MARKET.

IN their annual review of the Antwerp rubber market for 1908 Messrs. Grisar & Co., the official brokers, again confine their remarks mainly to the decline of the natural supplies in the Congo Free State—since recently a Belgian colony—and the outlook for rubber cultivation there. First, however, may be introduced a table of the arrivals of rubber at Antwerp during the last ten calendar years:

YEARS.	Congo State.	Other Sources.	Total.
1899 Kilos.	2,992,414	410,416	3,402,880
1900	4,002,003	796,032	5,008,035
1901	5,417,456	431,742	5,849,202
1902	4,992,954	411,031	5,403,985
1903	5,180,401	546,082	5,726,483
1904	4,723,618	1,040,238	5,765,856
1905	4,442,607	1,271,121	5,713,728
1906	4,593,759	1,178,303	5,772,062
1907	4,346,141	708,332	5,054,473
1908	4,262,531	772,813	5,035,344

Messrs. Grisar & Co. say:

"The total importations of rubber into this market have been practically the same as those of the past year. The reforms effected in the economic administration of our new colony (Congo Free State), notably in regard to the collection of the tax, explain the slight decrease relating to importations. This, however, can hardly be more than transient.

"If it is true that some of the forests are almost exhausted, it is none the less true that other parts of the territory, which

have been barely exploited up to the present time in an effective manner, and which have consequently not been utilized, may be described as hiding veritable reserves of caoutchouc. It is therefore probable, anticipating the opening up of rubber plantations established at the instance of the Congo State, that the annual output of the past years, which has, so to say, not varied, will remain practically the same.

"It must, at the same time, be noted that in certain sections of the Belgian Congo, the quality of the rubber can hardly be said to have improved. It will be recalled that the attention of the authorities has been directed to this point and that special recommendations have been made in Africa, with a view to the remedy of a condition prejudicial to the reputation of Congo rubber.

"If the figures of the imports of the various qualities have not materially increased, the cause is to be sought in the acute crisis in the value of the article that has prevailed during the year. If the economical conditions governing the exploitation of the Belgian Congo have permitted, in spite of the low prices, regular exportation, it has not been the same with the output of other countries, where the regular exploitation has been very much restricted, and is in some instances completely interrupted, the low prices to which the product has declined not allowing of its profitable exportation. If, however, the quantity exported has been smaller, the quality has been better. This fact is set forth in the relatively higher prices always obtained for the better qualities. This is a valuable example for the future and the producers will do well to be inspired by these considerations, because if some day an increase in the volume of the world's output of rubber should depress prices in a serious and continuous fashion, only the best grades produced will be able to retain a position in the market.

"Plantations.—It is more and more evident that as far as rubber is concerned, the future of the Belgian Congo depends essentially on the plantations that are established there. It is asserted that the equatorial forests generally, constantly placed under contribution, are becoming more and more exhausted, which is making the exploitation increasingly difficult. This complex and troublesome problem has been definitely solved in the Far East, where the success of plantations surpasses all expectations, as much in the account of the vigorous growth and continuous yield of the trees as in regard to the quality of the product obtained. In addition, the output of these undertakings has always been profitable, even at the worst period of the financial depression, because of the low cost price; this continues to decrease in proportion and extent as the trees increase in size and yield more rubber."

The report here relates to the details of rubber planting in Ceylon and Malaya, covering, it is stated, 300,000 acres, and involving an investment of £15,000,000 [≈about \$75,000,000]. The exports of plantation rubber from those regions increased from 7,910 pounds in 1899 to 2,468,000 in 1907.

With regard to rubber planting in the Congo colony, as far as the government is exclusively concerned, the number of trees and vines set out may be summed up as follows:

	End of 1905.	End of 1906.	End of 1907.
Lianes (creepers)	8,575,000	10,150,000	11,564,077
Manihot, Hevea, Ficus, etc.....	157,000	188,000	225,944
<i>Funtumia elastica</i>	753,000	1,187,000	2,417,631
Total	9,485,000	11,525,000	14,207,552

"The general results obtained in the Congo up to the present time," Messrs. Grisar & Co. remark, "are especially encouraging, as far as the cultivation of *Funtumia elastica* is concerned; so much so, that it has been decided to accord the preference always to this species in future plantations, and wherever local conditions are suited to this particular culture.

"The plantations of which we have spoken here are distributed throughout the colonial territory. But it will suffice to refer

particularly to three great centers established, respectively—in the Lower Congo, the Ubangi and the Lualaba-Kasai. The first of these, especially, located on the bank of Ganda-Sundi, is regarded as a model plantation. Established about two years, with a working force of about 300 people, it contains to-day 225,000 *Funtumia elastica*, 20,000 *Hevea Brasiliensis*, and 76,000 *Landolphia Klainei* vines, covering a superficial area of 346 hectares [≈855 acres]. The work under way allows us to state that this agricultural center will take in, next spring, 200 hectares, with 130,000 more trees, which extends the superficial planted area of this agricultural enterprise to 546 hectares."

COMPARATIVE ANTWERP PRICES (FRANCS PER KILO).

	Dec. 31, '07.	Dec. 31, '08.	Increase.
Kasai, red, I.	9.00-9.40	12.35-12.85	36.70%
Loanda II kind.	8.10-8.40	8.75-9.25	10.11%
Kasai, black	9.00-9.40	12.35-12.85	36.70%
Equateur, Ikelemba, Lopori, etc.	9.00-9.40	12.35-12.85	36.70%
Upper Congo, ordinary....	8.50-8.80	11.00-11.50	30.68%
Uruwimi Uelé	8.50-8.80	11.00-11.50	30.68%
Mongala strips	8.50-8.80	11.00-11.50	30.68%
Red thimbles (root rubber)	4.25-4.50	4.25-4.75	5.55%
a Para fine	3s. 4d.-3s. 6d.	5s.-5s. 2d.	47.61%

[a In English money, per pound.]

[Ten francs per kilogram=87½ cents per pound.]

RANGE OF PARA RUBBER PRICES.

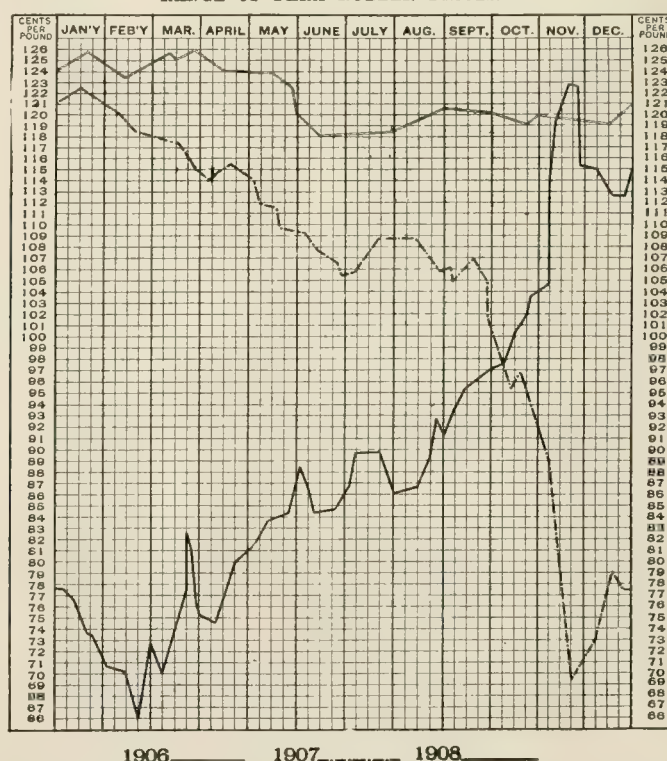


CHART SHOWING FLUCTUATIONS IN ISLANDS SPOT FINE PARA RUBBER AT NEW YORK, FOR THREE YEARS.

[Copyright, 1909, by Henry A. Gould.]

WHEN James B. Angell, professor of modern languages in Brown University, over fifty years ago translated Dr. F. Luedersdorff's essay on india-rubber from the German, it is doubtful whether he appreciated the importance to rubber science of its contents, or that he ever learned it later. It is probable, indeed, that he has forgotten the whole matter, in view of the busy life that he has led and continues to lead. For while Dr. Angell celebrated his eightieth birthday on January 7, he still fills the position of president of the University of Michigan, which he has held since 1871, after having previously done much work of importance in many lines—in the diplomatic world as well as in the development of educational institutions.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

DURING the last year or two the government authorities have placed their contracts for a limited period of six months, instead of for the whole year as was formerly the rule. This really only amounted to having a right to change the contractor at the end of six months, if it seemed desirable to

ADMIRALTY CONTRACTS.

do so, and further it allowed of certain orders being distributed among a larger number of manufacturers. Now, however, I understand the old practice is being reverted to, and contracts for delivery over twelve months will be placed. This will be somewhat later than in recent years, the new tender forms not being expected until early in January. I have not heard of any new regulation or alterations in the reformed chemical tests. With regard to the alcoholic potash extraction test I hear the usual stories of goods which do not pass it, going into store and consumption. As these stories arise, however, from trade competitors they must be accepted with some degree of reserve. With regard to the test itself, although an undoubted improvement on the old moist heat test, it could be modified with advantage, in my opinion, by the alcoholic extraction being preceded by an extraction with acetone.

THE last report of this Manchester company shows a profit nearly four times greater than in the preceding year, and allows of a dividend of $7\frac{1}{2}$ per cent. being paid on both the ordinary and preference shares. A specific reference to

GORTON RUBBER CO., LIMITED.

this seems justified because the opinion has been freely expressed that it is becoming increasingly difficult for small concerns to compete with establishments of greater size and capital resources. In several cases this expression of opinion has found justification. Management, however, has no doubt a great deal to do with failure or success, and as the improved position of the Gorton company synchronizes with the appointment of Mr. George Spencer—for many years connected with Messrs. Charles Macintosh & Co., Limited—to the managing directorship it is a fair presumption that credit attaches to him.

I SEE from a paragraph on the subject in the December issue of THE INDIA RUBBER WORLD that it is suggested to put a comparatively high import duty on barytes coming into the United States in order to benefit the home mining industry.

BARYTES.

Although barytes has never figured in England as a compound of high class rubber goods, it has always found regular application in the trade. I understand that its use in the American rubber trade has considerably increased, and after the paint trade the rubber trade is the principal producer. Whether there is any important increase in its use in the British rubber factories is a point on which I have no direct information, and am unlikely to obtain it easily. British barytes mining has, however, had a great jump in recent years, and it does not now rank as the unprofitable sort of business it was a decade ago. The output of crude barytes from the mines amounted to 41,974 tons in 1907, compared with 26,327 tons in 1904, and being the highest on record. The United States output in 1906 was 43,759 metric tons, and about 4,000 tons annually are imported. A considerable proportion of the British output is the carbonate of barytes, which is more expensive than the ordinary sulphate, and to the best of my knowledge is not used in the rubber trade. America hardly produces any carbonate. The two countries named are now the leading producers of barytes, Germany, France and Belgium coming next in importance. I shall not go further into technical matters, except to say that if the present demand keeps up there

will probably be an advance in prices. The difficulty in the American mining seems to lie in the fact that the product comes from a large number of small concerns widely scattered, and the freights to the grinding mills are often heavy. With such a low-priced mineral, moreover, it has not seemed expedient to embark capital on special machinery, and altogether there is an absence of the organization and method so noticeable in other branches of American mining. Much the same state of affairs had been the case in England, but with the increased demand the capitalist is taking the place of the Derbyshire "hillocker," who for long has earned a precarious livelihood by turning over the old lead mine dumps for "cawk," as it is called. Of course, barium sulphate in the precipitated form is a normal component of the lithophone, and this pigment has had increased application both in the paint and rubber trades in recent years.

A COMPARATIVELY modern procedure in rubber works practice is the issue of tender forms for various rubber chemicals to

TENDERS FOR RUBBER CHEMICALS.

manufacturers and dealers who are supposed to be in a position to quote. In many cases a close specification is given of the requirements, both as regards physical properties and chemical composition. Owing, in many cases, to keen competition among the suppliers of rubber chemicals who do not always manufacture the goods themselves, prices have come down a good deal in recent years, and profits have shrunk to a corresponding degree. In these circumstances it is not surprising that dealers are not very keen on entering into contracts which under the most favorable conditions yield a very meager profit now that they are expected to supply to specific requirements, the details of which may be quite novel to them. They are told, for instance, that in the case of a certain substance the specific gravity must always be 5.5, nothing being said as to the degree of latitude allowed. Then a particular mineral must be quite free from a certain impurity. As a matter of fact, very few commercial chemicals are quite free from impurities. I think the term commercially free should be used, otherwise the buyer who wished, for any particular reason, to get out of a contract could depend upon finding traces of the impurity if the analysis was made upon sufficiently large quantity of material. The new procedure will, of course, affect the middleman, with his small margin of profit and his ignorance of the details of manufacture of what he sells, more than it will the actual manufacturer. As in many other industries the middleman has become of less importance in the rubber chemical trade of late years than was formerly the case, the more general employment of chemists in the works and keener buying having combined to effect his effacement. Now he will require the actual manufacturer to indemnify him against claims, a request which may not be readily acceded to if only because it has not been customary to say more about the composition of the goods except that they are the best quality.

THE question of the recovery of the textile fabric in reclaiming rubber from textiles and insertion goods has long been before the trade, but as far as I can gather there is still no regular business being done between rubber reclaimers and such firms,

TEXTILES IN RUBBER RECLAIMING.

notably in West Yorkshire, who deal in what may be termed textile scrap. An important *desideratum* is that the textile material must be entirely free from rubber, and the penalties attaching to a contravention of this requirement were too great in the case of one process I have in mind to encourage the reclaimer to enter on the proposed business. As regards waterproof cuttings the difficulty has always been the due separation of the woollen and

cotton fabrics which find separate markets. The most promising reclaiming, or rather rubber scrapping, process in recent years, as far as the sale of the canvas fabric is concerned, is certainly the Penther patent machine now working at Leyland. Here the fabric is completely separated in the form of fluff from the rubber, and it was understood that it found a ready market at a satisfactory price. To a certain extent this has been the case, but I understand that for certain reasons, which it might not be altogether politic to give in detail, the fluff is now no longer sold. Unlike certain chemical manufacturers, the Penther process is not dependent on the sale of a low class by-product for its continued existence, and in the light of what has occurred at Leyland it may reasonably be assumed that there is more sentiment than commercial importance about the whole question of the sale of the fabric as well as the rubber by reclaimers. Of course, at first sight it does seem wasteful to destroy apparently valuable matter, but when we consider the restricted market for second-hand fabric, and the fact that the buyers as a class are without the financial resources of a Rothschild, those chiefly concerned may not be worthy of blame after all. Certain enthusiasts are always cavilling at the loss of ammonia escaping up the chimney of a fire place or stove while ignoring the difficulties and expense involved in its recovery. Ammonia will continue to run to waste from this source, and it looks as if the fabric in rubber reclaiming may be expected to continue for much the same reason, to run to waste.

COLONEL RICHARD K. BIRLEY, whose connection with Charles Macintosh & Co., Limited, is known throughout the rubber trade, has been appointed by the Lord Lieutenant of Lancashire as a deputy lieutenant for the county. It is now a very

long time since the Lord Lieutenant of a county and his deputies had any real concern with the defense of the country, but under the new Territorial army scheme the positions are to be held by men who have had military training or are concerned in some capacity with the new home army. Colonel Birley, who is a C B., and has the V. D., has long been associated with the Manchester artillery volunteers (now Territorials), and has a son in the Royal artillery—the regular army. The uniform of a D. L. is a somewhat striking one, a sort of compromise between that of an admiral and a general.

BALATA IN BRITISH GUIANA.

THE history and economy of the balata industry in British Guiana during the past year derive much of their interest and importance from the fact that the licenses have been extended from one, two, and three years to fifteen years, thus affording a more fixed tenure. This concession was made on the application of the holders of licenses, who hope that thereby capital will be attracted more readily. The weather was favorable during the year; operations were more extended; more laborers were employed, with the happy result that the export for the year has been larger than it ever has been. Colonel Link, who represents English capitalists, has been negotiating with a view of buying out a good many properties, and it is entertained that if he succeeds in amalgamating them he will put the industry on a sounder economic basis. There would be a saving in carriage and supervising expenses, and there is the probability that the management would be able to put up the price in England, where the demand for balata during the year has been moderately good. All has not gone well with the laborers, and the feeling is that the labor laws should be more stringent. Many of the best laborers have been attracted, by promises of better pay, to Surinam (Dutch Guiana), where the laws are so strict that the men, it is said, are little better than slaves, and can only leave with the greatest difficulty. The balata exported the calendar year 1908 amounted to

1,124,958 pounds, as against 991,280 in 1907. The exports for the past five financial years were:

In 1903-04.....	pounds 531,399
In 1904-05.....	" 501,509
In 1905-06.....	" 550,691
In 1906-07.....	" 634,242
In 1907-08.....	" 973,269

NEW TRADE PUBLICATIONS.

"AIRSHIPS" is a title of a brochure describing the application to the balloons and aeroplanes which have figured largely of late in the public mind of the rubber balloon fabric made at the Continental works at Hanover, Germany. Incidentally, the qualities of "Continental" tires are mentioned. The booklet comes from the London branch, THE CONTINENTAL TYRE AND RUBBER CO. (GREAT BRITAIN), LIMITED. [8" x 5". 16 pages.]

THE annual installment of Price Lists of the various Boot and Shoe companies subsidiary to the UNITED STATES RUBBER CO. was distributed early in January. The matter of prices is treated on another page of this paper. New illustrated catalogues have not been issued this season, last year's edition having been designed to serve for two years, and a sufficient number having been printed to last over.

HOOD RUBBER CO. (Boston), issues an illustrated catalogue on Rubber Boots and Shoes, dated January 1, 1909, covering all their products under "Hood" and "Old Colony" brands. [3½" in. x 6". 61 pages.] Also gross price list, of 12 pages.

KAUFMAN RUBBER CO. (Berlin, Ontario), issue their first trade publication, net price list of "Life Buoy" rubbers, for the 1909 trade. It covers a very full line, and only net prices are quoted. [3½" x 6½". 20 pages.]

DAVOL RUBBER CO. (Providence, Rhode Island) have issued a new illustrated catalogue of Davol rubber goods, for 1909-'10, which is the most extensive and complete list of the kind yet got out by his long established and yet most progressive house. It is devoted to druggists' sundries and surgical goods, and articles for household use in connection with these lines. It is interesting, in comparing this new catalogue with its predecessors for 10 years past, to note not only the additions to the old lines, but new features in pyrographic outfits, camera bulbs, gloves for tanners' use, veterinary goods, and distinctly new forms of water bottles, syringes, air cushions and the like. The size of the Davol catalogue has been increased 50 per cent. since 10 years ago, when they were already among the largest published in the sundries trade. [9" x 6". 146 pages.]

A. SCHRADER'S SON, INC. (New York), issue an illustrated catalogue of improved diving apparatus and submarine appliances, a class of goods rendered serviceable solely by reason of the incorporation in them of many items of rubber—diving dresses, air hose, gaskets and the like. [6" x 9¼". 16 pages.] Also, a price list of general hose fittings and diving apparatus, the hose items being for various purposes, from fire department use to bathroom fittings. [4½" x 6½". 30 pages.]

CONTINENTAL CAOUTCHOUC CO. (New York) issue an interesting booklet devoted to their demountable "ready flated" tires, which is amply illustrated. [9½" x 7". 40 pages.]

ALSO RECEIVED.

GEORGE P. CLARK CO., Windsor Locks, Connecticut.—Clark's Wheels and Casters [with rubber tires]. 24 pages.

Joseph Dixon Crucible Co., Jersey City, New Jersey.—Dixon's Graphite Lubricants. 8 pages. Dixon's Motor Lubricants. 20 pages.

The Seamless Rubber Co., New Haven, Connecticut.—"Kantleek" Automobile Rubber Sundries. 11 pages.

The Fisk Rubber Co., Chicopee Falls, Massachusetts.—Fisk Bicycle Tires. Price List. 20 pages.

G & J Tire Co., Indianapolis, Indiana.—Motorcycle Tires, 1909. 22 pages.

The Allen Auto Specialty Co., New York.—Allen's Specialties for the Motor Car. 16 pages.

Some Rubber Interests in Europe.

LARGE DUNLOP MANUFACTURING PROFITS.

AT the tenth annual meeting of the Dunlop Rubber Co., Limited (London, November 27), the reports showed net profits for the year ended August 31, 1908, of £302,918 [= \$1,474,150.45], which permitted the declaration of dividends for the year of 100 per cent., the same as for the preceding twelve months. The Dunlop Rubber Co. is a subsidiary of the Dunlop Pneumatic Tyre Co., Limited, constituting the manufacturing division of the latter. The capital is £220,000 [= \$1,070,630] in £1 shares, of which 181,881 are held by the Dunlop Pneumatic Tyre Co. The remaining 38,119 shares, not issued until March, 1907, are held by individual shareholders in the Pneumatic Tyre Company. The total investment to date by the tire company in the manufacturing company is stated at £225,437, while the dividends have amounted to £768,762. The market value of the 181,881 shares now held by the tire company was stated recently at about £1,330,000. The Dunlop Rubber Co. was operated for the first year at a loss of £724 1s. 7d., since which time the yearly profits have been:

In 1901.....	£14,097	In 1905.....	£144,497
In 1902.....	54,854	In 1906.....	209,969
In 1903.....	88,823	In 1907.....	300,060
In 1904.....	157,517	In 1908.....	302,918

[The Dunlop Pneumatic Tyre Co., Limited, in addition to the income here referred to as derived from manufacturing, have their profits as a tire selling concern, not to mention their rubber trade interests outside of Great Britain.]

The chairman (Mr. Harvey du Cros, J. P.) referred to the adverse conditions of the cycle and motor trades during the year, though these conditions were not regarded as serious or lasting. The company made special efforts in developing their general rubber goods trade, with the result that the net profits for the year were greater than in any former period. The company anticipate a great benefit from the development of the taxicab interest. There has been created under the direct control of the Dunlop Rubber Co. a company prepared to undertake the maintenance and running of cabs of any make, foreign or English, from which alone a profit is assured, aside from which it is believed that the close relation into which the company will be brought with the cab proprietors will tend to the wider introduction of Dunlop tires in this field. Mr. du Cros referred briefly in his remarks to the interest of his company in a new mill in Japan in course of erection, and which was expected to be in full swing before the next annual meeting.

The report of the Dunlop Pneumatic Tyre Co., Limited, for the year ended September 30, 1908, shows profits, after providing for fees, depreciation, and debenture interest, of £192,941 [= \$938,947.38]. Dividends as follows: Preference shares, 5 per cent., amounting to £49,748; ordinary shares, 8 per cent., amounting to £49,998; deferred shares, six months at the rate of 5 per cent., and six months at the rate of 11 per cent., amounting to £39,996, the total dividend distribution being £139,742 [= \$680,054.44]. It is evident that the income of the company has been gained largely from the profits of the Dunlop Rubber Co., Limited, but on this point the report affords no information. It would be manifestly inaccurate to add the reported profits of the Rubber company and the Tyre company as representing the net income of the Dunlop interests.

The Dunlop Rubber Co., Limited, is the subject of a leading article in *The Financier* (London), headed "Dunlop Finance," and in which appears an analysis of the company's accounts indicating the payment last year of £24,526 [= \$119,355.78] in managing directors' commissions. The joint managing directors are Messrs. Harvey du Cros and Arthur du Cros.

SILVERTOWN COMPANY PROFITS.

THE report of The India-Rubber, Gutta-Percha and Telegraph Works Co., Limited, presented at the annual meeting on December 15, shows a net profit for the year of £52,946, against £56,809 14s. for the year ended September 30, 1907. The general business showed an increase over the year previous, but the competition on the Continent had adversely affected the tire trade of their French works, and the company had not escaped the effects of depression in the electrical industry. There had been little doing in submarine cable work. The dividends for the year were, as usual, 10 per cent. An issue of £12,500 additional in preference shares was made during the year.

PALMER TYRE, LIMITED.

THE profit for the year ended September 30, 1908, was £10,365, against £7,684 for the preceding year, and the dividend 12½ per cent., against 5 per cent. The company is owned by the India-Rubber, Gutta-Percha and Telegraph Works Co., Limited.

GORTON RUBBER CO.'S GOOD YEAR.

THE Gorton Rubber Co., Limited, of Openshaw, Manchester [see THE INDIA RUBBER WORLD, November 1, 1908—page 41], made a good showing for the year ending September 30. The balance available for distribution was £3,993 [= \$19,431.93], and the directors recommended a dividend of 7½ per cent. on ordinary and preference shares. During the year the capital was increased from £25,000 to £30,000 [= \$145,995]. The company make tires.

AN ENGLISH OWNED FACTORY IN AUSTRIA.

A NEW rubber factory in Austria is registered under the style Steinklammhofer Gummi-Werke G. m. b. H., with headquarters at Vienna, and 200,500 *kronen* [= \$40,701.50] capital. The situation is some 50 miles east of Vienna, on a stream well suited for generating electric power. The business is owned and will be controlled by G. W. Laughton & Co., Limited, of Clayton, Manchester, manufacturers of mechanical rubbers and also reclaimed rubber and substitutes. Plant was supplied by Francis Shaw & Co., of Manchester.

BRITISH RUBBER NOTES.

AT the seventh annual meeting of New Pegamoid, Limited (London, December 8), a better financial showing was made than for some time past, due in part to the lower price of cotton, and particularly of camphor. The dividend declared was 3 per cent. for the year, absorbing £9,000. For the year ending September 30, 1907, no dividend was declared.

Hood Rubber Co., Limited, registered in London, September 16, 1908; capital £5,000 [= \$24,332.50]. Objects, to buy and sell rubber and other footwear, and to adopt an agreement with the Hood Rubber Co., (Boston) and C. W. Randall, hitherto representative in Europe of the Hood Company. The first three directors are: C. W. Randall, Frederic C. and R. P. Hood.

W. & A. Bates, Limited, of the India Rubber Works at St. Mary's Mills, Leicester, under date of November 3, advise THE INDIA RUBBER WORLD: "We have the pleasure to inform you that we have this day appointed as additional directors of this company Mr. Alfred Henry Faulkner and Mr. Ebenezer Healey, junior. The original directors, namely, Mr. William Henry Bates, Mr. Hugh Faulkner, and Mr. Phillip H. Lockhart, retain all their original holdings and responsibilities in the company."

The gross profit of R. & J. Dick, Limited, for the business year was £63,411, and the net profit £40,124 [= \$195,263.45]. The preference dividend was 5½ per cent. A dividend was paid on the ordinary shares for the period from February 20 to August 31, at the rate of 4 per cent. per year.

The Editor's Book Table.

MANUAL OF THE PLANTER IN MALAYSIA. PARA RUBBER Cultivation. *Hevea Brasiliensis*. [Also: Manuel du Planteur en Malaisie. Culture du Caoutchouc de Para.] By C. Mathieu. Paris: Chalmel. 1909. [Paper. 4to. Pp. iv + 201. Price 18 francs.]

IN view of the volume to which the literature of rubber culture has attained, it would hardly be expected that so much new matter would be found in a single book as our author has presented here. Its chief merit, however, does not lie in the newness of any feature, but in the compilation with the new of so good a summary of what has been printed on the subject hitherto. We believe that no other book in the same field covers the planting of rubber so comprehensively, though as its title indicates, it is designed for planters of *Hevea* in the Far East, and has a less practical bearing upon planting elsewhere or of other species. M. Mathieu begins with the question of location and environment, the choice of soil, the details to be considered in housing the administration and working forces, and many other practical matters which have to do with a rubber plantation, but which do not always receive proper attention with sufficient promptness. Plans are given of buildings and estimates of costs; the labor question as it exists in the Federated Malay States is dealt with fully, and so on. Then the matter of clearing away forests is taken up, and in proper order all the details of rubber culture from planting the seed to extracting latex and preparing and shipping rubber and marketing it. The work ends with some estimates of cost for opening and maintaining a plantation, which will be useful at least in suggesting to intending planters the details under which expenditures may be expected to be called for. The book contains a few pages of statistics, well arranged and informing. The illustrations are numerous and good.

The book is printed in both English and French, but neither part is a translation from the other. The author explains that the French text was an afterthought, and was written while the English was going through the press, and that in some respects it is the more up-to-date section of the book. The value of the work is enhanced by the fact that its author was one of the earliest planters of *Hevea* in Malaya.

EXPOSICAO COLONIAL DE ALGODAO, BORRACHA, CACAU E Café (Abril a Maio de 1906). Catalogo sob a Direcção de Ernesto de Vasconcellos. . . . Lisbon: 1906. [Paper. 8vo. Pp. xxiii + 104.]

THIS pamphlet, which is a record of an important undertaking for the promotion of Portuguese colonial interests in Africa, was compiled by the general secretary of the Geographical Society of Lisbon. The *Borracha* is of course india-rubber, and the details regarding the 80 exhibits of this material is of value for permanent reference for those interested in the distribution of native rubbers in Angola, Mozambique and Portuguese Guinea, besides which there are notes on products of rubber plantations.

KALENDER FUER DIE GUMMI-INDUSTRIE UND VERWANDTE BETriebe 1909. . . . von Edgar Herbst, Fabrikdirektor. Mit der Beilage: Jahrbuch der Kautschuk-Industrie. Berlin: Union Deutsche Verlagsgesellschaft. [1909.] [Leather. 24mo. Pp. 460. Price, 4.50 marks.]

THIS comprehensive annual is intended to be helpful in every branch of the rubber trade, whether in the factory, or administrative office, or to the salesman of rubber goods. Comparative prices of raw rubber are given in English, American, German and French money; temperature equivalents by the Fahrenheit and other scales; tables of loss in washing of rubber; changes in customs duties on rubber goods in different countries during the year; statistics of German imports and exports of rubber goods; patents laws in different countries and recent information under various other headings—all concise, accurate, and up to date. The literary section has to do with the latest results in chemical research as related to rubber, including references to

the principal publications appearing in this branch during the year. There is a summary also of the more important patents relating to rubber. The publishers named on the title page are the proprietors of the *Gummi-Zeitung*.

RUBBER. ITS CULTIVATION IN CEYLON, MALAYA, AND JAVA. Report of Observations Made by Fred T. P. Waterhouse, Illustrated by Photographs Made by Him. Issued by the Hawaiian Rubber Growers' Association. [Honolulu]: 1908. [Paper. 8vo. Pp. 53.]

THE title fully explains this brochure, except that it does not indicate the excellence of the 32 photographic views of plantation rubber in the Far East, including Ceará rubber trees of 20 and 23 years.

THE UNIVERSAL STANDARD GRADING OF SCRAP RUBBER. By Alfred W. Leslie. [London, 1908.] [Cloth. 12mo. Pp. 46. Price, 2 shillings 6 pence.]

THIS little volume embodies a paper read at the rubber congress in connection with the International Rubber and Allied Trades Exhibition, at the Olympia, London, last October.

HENDRICKS' COMMERCIAL REGISTER OF THE UNITED STATES, for Buyers and Sellers. Especially devoted to the Interest of Architectural, Mechanical, Engineering, Contracting, Electrical, Railroad, Iron, Steel, Hardware, Mining, Mill, Quarrying, Exporting and Kindred Industries. . . . New York: Samuel E. Hendricks Co., 1908. [Cloth. Large 8 vo. Pp. LXXXII + 1240. Price, \$10.]

THE fact that this business man's reference book has appeared regularly under the same management for seventeen years is in itself an indication of merit. The work contains upward of 350,000 names and addresses, classified under 33,684 trade headings—numbers which far exceed those for any preceding issue. We notice 118 different headings for rubber goods, from rubber aprons to rubber window cleaners. We do not understand that the work is offered as a complete American trade directory, but care is taken in the selection of material for it, and we should consider it difficult for any one consulting the work to look under any heading without finding a sufficient number of addresses to be helpful in the matter of looking up business opportunities.

OTHER BOOKS RECEIVED.

MISSOURI BOTANICAL GARDEN, NINETEENTH ANNUAL REPORT. St. Louis: 1908. [Cloth, 8vo. Pp. 287 + 35 plates.]

INTERNATIONAL CABLE DIRECTORY OF THE WORLD. IN CON-junction with Western Union Telegraphic Code System. New York and London: International Directory Co. 1908. [Cloth. 4to. Pp. 830. Price, \$7.30.]

REPORT OF THE CHIEF SIGNAL OFFICER, UNITED STATES Army, to the Secretary of War. [For the fiscal year ended June 30] 1908. Washington: Government Printing Office. 1908. [Paper. 8vo. Pp. 39 + map.]

THIRTY-FIRST ANNUAL REPORT OF THE BUREAU OF LABOR Statistics, to the Seventy-seventh General Assembly of the State of Ohio. For the year 1907. Springfield, Ohio: State Printers. 1908. [Cloth. 8vo. Pp. 523.]

IN CURRENT PERIODICALS.

REPORT on the Cultivation of Rubber in Ceylon and the Federated Malay States and Johore. By Fred T. P. Waterhouse.=*The Hawaiian Forester and Agriculturist*, Honolulu (V-11 Nov., '08.) Pp. 251-303.

Hawaiian Rubber Growers' Association Annual Meeting. [Reports and papers read.]=*The Hawaiian Forester and Agriculturist*, Honolulu. (V-12 Dec., '08.) Pp. 307-324.

Donnees Nouvelles sur le *Bleekrodea Tonkinensis*. [An account of an important rubber bearing species in French Indo-China.]=*Bulletin Economique*, Hanoi. XI-74 (Sept.-Oct. '08.) Pp. 520-522.

Electric Cables. By H. W. Fisher. [The dialectic strength of insulating materials and the grading of cables.]=*Proceedings of the American Institute of Electrical Engineers*, New York. XXVII-10 (Oct. '08). Pp. 2-5.

Insulating and Sheathing High Tension Underground Cables. By Henry Floy.=*Electrical World*, New York. LII-14 (Oct. 3, '08). Pp. 732-733.

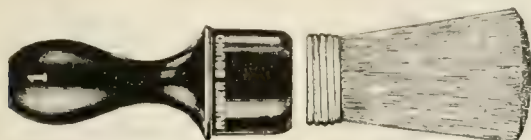
Rubber in Hawaii. By W. A. Anderson. [A review of plantation progress; illustrated.]=*Paradise of the Pacific*, Honolulu. XXI-12 (Dec. '08). Pp. 31-34.

Rubber and Its Relatives. [Includes balata, gutta-percha, and the like; illustrated.]=*Bulletin of the International Bureau of the American Republics*, Washington. XXVII-6 (Dec. '08). Pp. 990-1010.

New Rubber Goods in the Market.

RUBBER BOUND SHAVING BRUSH.

THE handle of this brush is made entirely of hard rubber, and being unaffected by constant use in water and soap, it does not swell, crack, or burst. The bristles are set and vulcanized in a solid setting of hard rubber, eliminating any danger of their shedding. The setting is surrounded by a special composition white metal ferrule, tapered on the inside for additional strength, and threaded on the outside, permitting by means of a threaded recess in the end of the rubber handle the ready attachment or detachment of handle or brush. This construction, moreover, permits the use of a new brush part with an old handle. The white metal ferrule is not subject to rust or corrosion, and, being elastic, will yield to the swelling of the bristles instead of bursting. This brush, which is the invention of Mr. H. V. Hardman, who is widely known in the rubber trade, has been on the market for some months, and the demand is stated to be constantly increasing. [Rubber-Bound Brush Co., Belleville, New Jersey.]

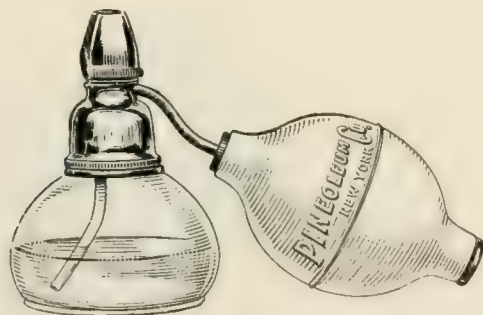


RUBBER BOUND SHAVING BRUSH.

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PINEOLEUM OIL NEBULIZER.

THIS nebulizer is especially constructed with the idea in view to applying the nebulized oil without force to the mucous membranes. The point of atomization is as far away as possible from the nasal cavities, whereas in many other atomizers and



PINEOLEUM OIL NEBULIZER.

nebulizers the spray producing point is placed within the nose. The metal parts of this nebulizer are nickel plated and polished. The name worn by the article is that of a special inhalant marketed by the same firm. [The Pineoleum Co., Greenwich, corner of Tenth street, New York.]

MEAD'S S. T. SELF-FILLING FOUNTAIN PEN.

THIS is a new pen, the patentee of which is experienced in the rubber trade, and particularly in the manufacture of goods in this line. The "S. T." in the name of the pen means "simply twist"—the idea being that either to fill or empty the pen the cap is twisted slightly to the left or to the right, as the case may be, reversing the operation after the pen is filled or emptied. The simplicity of the operation is accompanied by the great advantage that there are no parts that can get out of place. The cleaning of the pen is accomplished by simply filling it with water and emptying it again. [Mead Fountain Pen Co., No. 107 John street, New York.]



MEAD'S S. T. PEN.

SAVAGE PROTECTOR AND EXCLUDER.

THIS patented Protector and Excluder attached to a felt boot or sock, and then made into a "combination" with rubber shoes, makes for the use of lumbermen or others much exposed to snow, slush, and mud, an article not surpassed from a practical standpoint by any other combination footwear. This protector and excluder is made of No. 6 stuff, heavily coated on both sides, and so cut that it can be easily trimmed up for the placing on of the rubber and then turned down and buckled over the top of the rubber. A band of duck sewed to the boot still further prevents the infiltration of snow or water and makes the protection still more effective. [F. W. Savage Rubber Co., No. 36 Lincoln street, Boston.]



SAVAGE PROTECTOR AND EXCLUDER.

THE NEW LACED FELT BOOT.

THERE has been introduced to the trade for this season a new article in the line of felt boots, the special feature of which is that it is laced, as indicated in the illustration. The new feature renders this line of goods particularly well adapted for the use of all who are exposed to severe cold weather. It makes a graceful warm felt boot for a chauffeur. The new laced felt boot has a leather top and leather front stay, snow excluding bellows, and extra strong laces; it fits close to the leg, and is light gray in color. It has a tan pull-on web strap. These goods have already met a large sale. [Medford Woolen Manufacturing Co., Medford, Massachusetts.]



THE NEW LACED FELT BOOT.

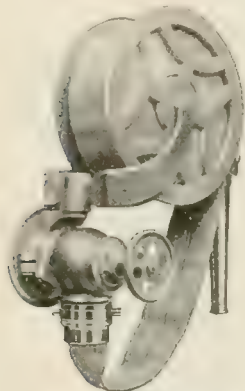
RUBBER SHOES FOR METAL CHAIRS.

A VERY large business is done nowadays in metal furniture, to the use of which there was originally the objection both of noise and of wearing some floor surfaces on which it might be placed. There are metal chairs for many purposes, soda counter stools, round tables for cafes and the like, typewriter tables, children's furniture, and very many other articles of metal furniture, all with their advantages, while the single disadvantage is overcome

by the use of "rubber feet," which are supplied by one of the leading rubber manufacturing companies. These are retailed at 80 cents per set of four. [Royal Metal Manufacturing Co., No. 1817 Dearborn street, Chicago.]

STANDARD SWINGING HOSE REEL.

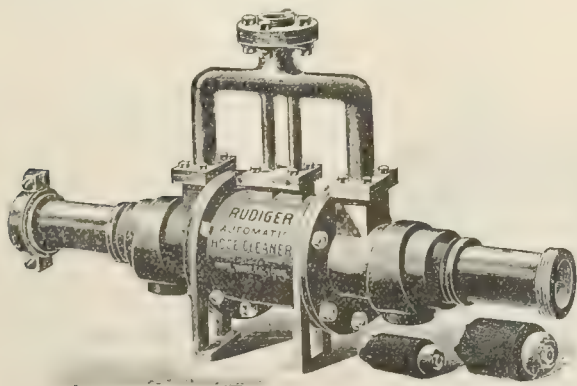
THE Standard swinging fire hose reel here illustrated, when hung on a standard nipple clamp, occupies a minimum of space, thus leaving clear headroom below the valve, while at the same time at a convenient height to operate. Hubs on these reels are so constructed that hose can be coiled on them without folding. Hose manufacturers always coil hose; they never fold it, as they know that every fold in any kind of hose injures it, and lessens its usefulness. These reels are strong and ornamental, as well as practical; they do not cost more than others, and are easy to put up. They are aluminum bronze finish on iron unless otherwise ordered. [Lyman D. Jones, No. 192 West Broadway, New York.]



STANDARD SWINGING
HOSE REEL ON NIPPLE
CLAMP.

THE RÜDIGER AUTOMATIC HOSE CLEANER.

A VERY ingenious and effective appliance for thoroughly cleansing brewer's hose is shown in an accompanying illustration. A length of hose to be cleansed is coupled to the open ends of the pressure pump after one of the rotary brushes has been placed inside of either the hose or the metal end of the apparatus. When securely coupled, water pressure is turned on from the



RÜDIGER AUTOMATIC HOSE CLEANER.

top, driving the brush the entire length of the hose where it trips a valve, sending the water in the opposite direction. It will be seen that the brush travels back and forth, shuttle fashion, through the inside of the hose until it is thoroughly cleansed. The body of the brush is made of brass and the cleansing part is of heavy bristles. It is made to fit 1, 1¼, 1½ and 2 inch hose. [J. H. Rüdiger, No. 217 West street, New York.]

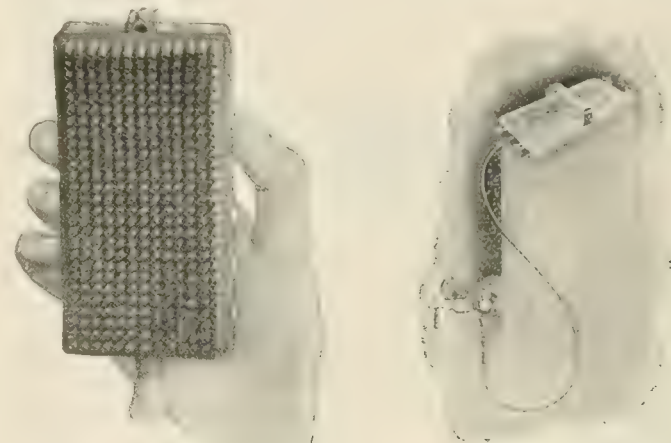
BRIEF MENTION.

SOMETHING new in the rubber footwear line is an acid boot, designed to be worn in acid works, powder works, or other places where sulphuric acid is an element. The compound used in these boots is especially adapted to resisting the effects of acids. This boot is made only by the Boston Rubber Shoe Co. The same company have been at work upon a special boot for the use of postmen, and a number of sample pairs are in use by members of the service. Boots worn by letter carriers must be constructed for very hard usage.

The Kinnell emergency overshoe for horses invented by George N. Kinnell, a veterinary surgeon of Pittsfield, Massachusetts, and which is being manufactured extensively for use on horses on icy streets, is merely a chain "tread" attached to a leather belt, which can be quickly buckled on and as quickly taken off the horse's foot. No rubber enters into its construction.

THE KNICKERBOCKER SPRAY BRUSH.

THIS spray brush for use in the bath in a variety of ways, consists in the first place of a great number of rubber "teeth" or "bristles," which are hollow, and through which the water used,

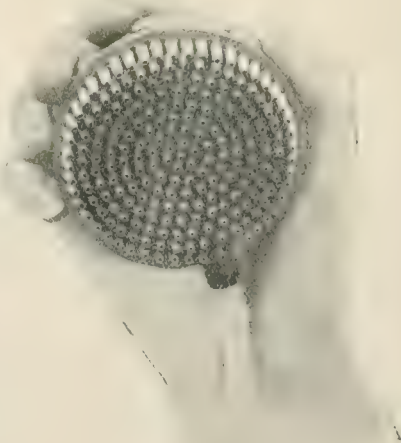


KNICKERBOCKER SPRAY BRUSH,
No. 3.

BRUSH ATTACHED TO
FAUCET.

of any desired temperature, trickles in tiny streams. The use of the appliance is rendered more pleasing to the bather by the fact that the brush possesses a maximum of flexibility by being rubber backed. In other words, the entire brush is of rubber, and the tubing by which it is connected with the bathtub or other faucet is, of course, rubber. There are hundreds of these tiny rubber teeth in each brush, and the fact that the brush is made of rubber renders its application to the body more agreeable than is true of brushes made of any other material. Besides, the fact that water is flowing through the brush all the while keeps the latter constantly clean, which renders the bath itself a cleansing process to a degree not attained when such brushes are not used. The brush may be rectangular in shape or circular, as desired. Each is provided with a flexible strap handle at the back, while it is adapted also to receive a rigid extension handle which may be attached to or detached from the brush. This may be used for applying the brush to portions of the body, not so conveniently reached otherwise. Some of these brushes contain as many as 600 rubber teeth. [The Progress Co., Rand-McNally Building, Chicago.]

KNICKERBOCKER SPRAY BRUSH, No. 5.



SEND for a copy of the Index to "Crude Rubber and Compounding Ingredients."

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED DECEMBER 1, 1908.

- N**O. 905,186. Tread. C. L. Hyde, Goshen, Indiana, assignor of one-half to Western Rubber Co.
- 905,187. Attachment for springs (my king hot water bag). C. L. Lottler, Sioux Falls, S. D.
- 905,204. Tire fastener. [For retaining pneumatics.] J. D. Maxwell, Tarrytown, N. Y.
- 905,210. Elastic or pneumatic tire for road vehicles. [With studded tread.] H. J. Scott, London, England.
- 905,257. Pneumatic tire. [With tread of flexible puncture proof material.] T. J. Westness, Milwaukee, Wis.
- 905,323. Overshoe fastener. E. H. King, Pittsburgh, Pa., and S. H. King, Providence, R. I.
- 905,324. Overshoe fastener. *Same*.
- 905,555. Tire armor. [Spring metal anti-slipping plates.] W. A. Mix, Walla Walla, Wash.
- 905,584. Pneumatic tire. [With metal plate protective armor.] F. Richardson, Providence, R. I.
- 905,671. Rubber tire setting device. W. W. Edmisten, Pendleton, Ore.
- 905,709. Toe pad for horseshoe tips. P. Kiernan, Minneapolis, assignor of one-half to J. Henderson, Duluth, Minn.
- 905,823. Automatic air brake hose coupling. C. W. Rhodes, assignor of one-half to H. G. Elliott, both of Buena Vista, Va.

Trade Marks.

- Peerless Rubber Mfg. Co., New York:
- 30,366. The word *Durham*, on the representation of a pulley and belt. For rubber belting and hose.
- 30,367. The word *Eclipse*, on the representation of a solar eclipse. For machinery packing.
- 30,368. The word *Hercules* over the figure of Hercules. For belting and packing.
- 30,369. The word *Eclipse*. For hose and packing.
- 30,370. The words *Rainbow Ribbon* on a scroll. For rubber hose.
- 30,371. The word *Knicker*. For hose and packing.
- Also the following:
- 28,103. The New York Belting and Packing Co., Ltd., New York. The letters *NYMPC*. For rubber hose.
- 33,050. The Gutta Percha and Rubber Mfg. Co., New York. The word *Ajax*. For rubber-lined circular woven fabric fire hose.

ISSUED DECEMBER 8, 1908.

- 905,827. Tire surface or covering [of chain fabric]. P. C. Hewitt, New York city.
- 906,054. Anti-skidding tread for motor vehicle wheels. W. A. F. McCallum, Germantown, Pa.
- 906,158. Valve for pneumatic tires. H. K. Raymond, Akron, Ohio, assignor to The B. F. Goodrich Co.
- 906,159. Valve for pneumatic tires. *Same*.
- 906,167. Vehicle wheel rim. E. C. Shaw, Akron, Ohio, assignor to The B. F. Goodrich Co.
- 906,182. Bicycle tire and rim. S. S. Adams, Monroe county, Ky.
- 906,215. Apparatus for vulcanizing rubber. J. R. Gammeter, Akron, Ohio, assignor to The B. F. Goodrich Co.
- 906,256. Mold and mold equipment. T. J. Mell, Youngstown, Ohio, assignor to The Republic Rubber Co.
- 906,287. Hose nozzle. F. J. Radler, Jersey City, N. J.
- 906,297. Discharge nozzle or former of tube-making machines. V. Royle, Paterson, N. J.
- 906,304. Guard for tires. C. H. Saunders and A. B. Breitweg, Cleveland, Ohio.
- 906,306. Process for vulcanizing a rubber solution. H. Scherpe, assignor to Dr. Deegen & Kuth, all of Duren, Germany.
- 906,404. Elastic tire wheel. A. D. Foucart, Muncy, Pa.
- 906,437. Tire protector. H. M. Leese, Washington, D. C.
- 906,487. Pneumatic tire for wheels. C. S. Challiner and J. A. Challiner, Manchester, England.
- 906,489. Art of vulcanizing rubber. J. R. Gammeter, Akron, Ohio, assignor to The B. F. Goodrich Co.

Trade Marks.

- Peerless Rubber Mfg. Co., New York:
- 30,373. The word *Anacanda*. For rubber hose.
- 30,375. The word *Reliance*. For rubber hose.
- 30,376. The words *Blue Ribbon*, on a ribbon bow. For rubber hose.
- 30,377. The word *Sterling*. For rubber hose.
- 30,378. The word *Liberty*. For rubber hose.
- 30,379. The representation of a crown. For rubber hose.
- 31,461. The word *Germane* in a diamond-shaped border. For machinery packing.
- 31,464. The word *Fortune*, surmounting two cornucopias. For belting and hose.
- Also the following:
- 36,581. Hibbard, Spencer, Bartlett & Co., Chicago. The words *Our Very Best* across the initials *O. F. B.* For garden hose.

- 36,582. *Same*. The word *Ret-O-Nec* under the initials *H. S. B. & Co.* For garden hose.
- 37,924. Dr. Deegen & Kuth, Duren, Germany. The word *Dermagummit*. For rubber preparations for covering the skin for hygienic purposes.

ISSUED DECEMBER 1, 1908.

- 906,456. Vulcanizer. F. C. Polles, assignor of one-half to F. C. Finsterbach, both of Buffalo, N. Y.
- 906,760. Tire. [Consists of a rubber body having spaced chambers formed thereon, solid chambers extending from side to side of said tire body.] F. A. Seiberling, Akron, Ohio.
- 906,588. Machine for manufacturing pneumatic tires. A. E. Vincent, Noisy-le-Sec, France.
- 906,601. Puncture closer for pneumatic tires. D. Apston, Bridgeport, Conn.
- 906,633. Filling for rubber tires and the like. [Consists of a gelatinous compound, a softening agent therefor, formaldehyde, and oxalic acid.] H. J. John, Washington, Pa., assignor of one-half to L. Raphael, Pittsburgh, Pa.
- 906,711. Spring. [Valve.] H. M. Hill, Dallas, Texas, and C. O. Farrington, Chicago.
- 906,804. Tire for vehicle wheels. F. Kempshall, assignor to Kempshall Tyre Co. of Europe, Ltd., all of London, England.
- 906,805. Elastic wheel tire. C. King, Isleworth, England.
- 906,807. Rubber heel. A. M. Leighton, Avon, assignor to W. B. Arnold, North Abington, Mass.
- 906,825. Dress heel. W. H. Simmons, New York city.
- 906,834. Elastic tire for wheels. A. Umlauf and K. Böhm, Vienna, Austria.
- 906,933. Tire protector. W. H. Rice, Benton Harbor, Mich.
- 907,025. Hose nozzle. J. Ford, Philadelphia.
- 907,093. Pneumatic tire protector. F. L. Smith and C. C. Smith, Wahoo, Neb.

Trade Marks.

- 38,172. A. G. Spalding & Bros., New York. Two segments of a circle, one colored blue and one red. For golf balls.
- 38,252. *Same*. Two segments of a circle. For golf balls.
- 38,211. Eberhard Faber. The word *Polita*. For a steel polisher of abrasive rubber.

ISSUED DECEMBER 22, 1908.

- 907,222. Overshoe. F. W. Chase, Kalamazoo, Mich.
- 907,273. Pneumatic tire plugging thimble. F. M. Neal, Bridgeport, Conn.
- 907,376. Powder blower. [For use in powdering shoes and the like.] F. B. La May, assignor to American Chemical Manufacturing and Mining Co., all of Rochester, N. Y.
- 907,453. Tire cover. F. C. Brock, assignor to the Vehicle Apron and Hood Co., all of Columbus, Ohio.
- 907,512. Means for automatic closing of punctures in pneumatic tires. J. Lindhardt, Copenhagen, Denmark.
- 907,522. Portable vulcanizing apparatus. [May be carried with a motor car.] M. Schiele, Hanover, Germany, assignor to E. Berliner, Washington, D. C.
- 907,703. Overshoe retainer. A. E. Peterson, Admire, assignor of one-half to E. Locke, Leuka, Kan.

Trade Marks.

- 38,464. Revere Rubber Co., Boston. The word *Relio*. For belting, hose, and other mechanical rubber goods.
- 38,533. The Carr Mfg. Co., Kansas City, Mo. The representation of a ruby printed in red, surmounted by the word *Ruby*, and having beneath the words "*It's a Gem*." Rubber rings and gaskets for jar caps.
- 38,534. *Same*. The representation of a peach surmounted by the word *Elberta*, and having beneath the words "*It's a Peach*." Rubber rings and gaskets for jar caps.

ISSUED DECEMBER 29, 1908.

- 907,742. Floor covering. J. W. Cleland, Brooklyn, N. Y.
- 907,748. Chewing gum. [Containing resin and rubber in approximately the proportions of 3 parts resin to 1 part of rubber; "Pasticak rubber cleansed and rendered plastic," is mentioned particularly.] J. D. Darling, Philadelphia, Pa.
- 907,906. Vehicle wheel [with pneumatic tire]. H. M. Specht, Skaneateles, N. Y.
- 908,109. Rubber heel plate. G. H. Leef, Minneapolis, Minn.
- 908,172. Rotative rubbing device. H. C. Aul, Bourges, Isere, France.
- 908,181. Vulcanizing mold. J. K. Williams, assignor of one-half to The Williams Foundry and Machine Co., all of Akron, Ohio.
- 908,275. Tire. [Pneumatic; with tread formed of a recessed rib.] E. Kempshall, London, England.

Trade Marks.

- 31,462. Peerless Rubber Mfg. Co., New York. The word *Rainbow*. For belting, hose, and packing.
- 31,463. *Same*. The word *Wizard*. For composition machinery packing containing asbestos.
- 36,788. Atlantic Rubber Co., Hyde Park, Mass. The words *Long Life*, on a circle enclosing the letter *A*. For rubber heels, bathing caps, etc.
- 38,112. The Goodyear Tire and Rubber Co., Akron, Ohio. The word *Pilgrini*. For pneumatic and solid rubber tires.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND

PATENT SPECIFICATIONS PUBLISHED.

The number in parentheses is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1907.

For list of Patents for Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, DECEMBER 2, 1908.]
18,706 (1907). Process for use in board ship. G. C. Schofield, Southampton.

18,885 (1907). Elastic tire composed of rubber cover with spring bands inside. K. Gabriel, Vienna, Austria.

18,892 (1907). Device for puncturing rubber tire while being filled with "Elastes" composition. J. L. Lacy, Westminster.

18,175 (1907). Felloe and rim for pneumatic tires. H. Jones and W. E. Evans, Morriston.

18,230 (1907). Pneumatic tire with puncture-proof tread. W. Harrison, Carlisle.

18,241 (1907). Testing machine. [The "P. & B." dynamometer described in THE INDIA RUBBER WORLD, September 1, 1907, page 382]. A. D. Gillard, Paris.

*18,252 (1907). Packing of metallic and fibrous strands around a core of elastic material. J. L. Sackett, Melrose, Mass.

18,281 (1907). Artificial leather. Waste leather is ground to a fine powder with which is incorporated rubber, petrolatum, zinc oxide, and other materials if desired; sulphur is added for vulcanization. H. Lewis, Melbourne, Australia.

18,437 (1907). Vulcanization of hard rubber coverings for metal or porcelain by means of an intermediate layer of rubber composition. M. Herschkowitsch, Jena, Germany.

18,535 (1907). Elastic tire of springs and rubber. R. Withey, South Bermondsey, and two others.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, DECEMBER 9, 1908.]
18,620 (1907). Folding pneumatic boat. E. E. Geisenberger, Brussels, Belgium.

18,622 (1907). Apparatus for vulcanizing rubber boots and shoes. [The principle is illustrated in an earlier invention by the same patentee, described in THE INDIA RUBBER WORLD, April 1, 1908—page 219.] J. W. V. Mason, Manchester.

18,623 (1907). Apparatus for vulcanizing rubber boots and shoes. *Same.*

*18,646 (1907). Pneumatic tire. C. G. Hawley and E. K. Baker, Chicago, Illinois.

*18,653 (1907). Solid rubber tire. J. W. Rock, Akron, Ohio.

18,675 (1907). Elastic tire in which sections of hard rubber and soft rubber are arranged alternately. E. L. H. Crosby, London.

18,666 (1907). Tire filling composition made by the absorption of formaldehyde in gelatine solutions. S. W. Wilkinson, London.

18,697 (1907). Pneumatic tire. T. Cleathero and W. H. Carter, Grays, Essex.

18,770 (1907). Spring wheel with tire of tread blocks resting upon a pneumatic cushion. T. W. Hay, Slough, Buckinghamshire.

18,797 (1907). Manufacture of rubber covered rollers. A. T. Collier, St. Albans, and Reilloc Tyre Co., Westminster.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, DECEMBER 16, 1908.]
19,125 (1907). Tire removing lever. R. L. Jones and F. Weeden, Carnarvon.

19,118 (1907). Detachable rim for pneumatic tires. F. S. Bereton and H. M. Rogers, Southport.

*19,131 (1907). Use of cellulose to fill a pneumatic tire when punctured to render it further serviceable. J. J. Hengler, Chicago, Ill.

19,168 (1907). Non-skid device for pneumatic tires. C. Henke, Witten-on-the-Ruhr, Germany.

19,189 (1907). Air tube for pneumatic tire formed in sections with closed ends, each being provided with a separate inflating valve. F. J. Moran, Birkenhead.

19,321 (1907). Pneumatic tire with puncture-proof lining between the air tube and cover. T. W. Baker, London.

*19,419 (1907). Pneumatic tire with continuous tread formed with recessed circular stud-like projections. E. Kempshall, London.

19,476 (1907). Solid rubber tire. W. E. Carment, Richmond, Surrey.

19,511 (1907). Pneumatic tire. W. B. Hartledge, Seaford, Sussex.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, DECEMBER 23, 1908.]
19,631 (1907). Rubber tire of arch section secured at its sides between metal rims. J. Slee, Newton-le-Willows.

19,654 (1907). Spring wheel composed of discs and having a pneumatic tire. J. Knight, Hollyhead.

19,681 (1907). Spring wheel mounted with elastic tire. L. P. Filliol, Levallois-Perret, France.

19,718 (1907). Pneumatic tire. J. Marcet y Marti, Tarrasa, Spain.

19,748 (1907). Solid rubber tire. R. T. Smith, Warrington.

19,787 (1907). Pneumatic tire with air chamber formed as a single tube or as a series of air bags. F. G. McKim, London.

19,788 (1907). Pneumatic tire formed of sections connected end to end and inflated with one valve. *Same.*

19,798 (1907). Device for locating punctures in tires, football bladders and the like. E. Daniell and S. A. Williams, London.

19,837 (1907). Pneumatic tire with detachable tread band. F. Hall, Huyton, Lancs.

19,887 (1907). Non-skidding chain device for tire treads. T. C. Martin, Cleveland, Ohio.

19,907 (1907). Electrically heated vulcanizer, particularly for tires. J. Hay, and two others, Johnstone, Renfrewshire.

19,968 (1907). Spring wheel with solid rubber tread tire resting upon a pneumatic cushion. W. A. Woodson, Gateshead-on-Tyne.

*20,031 (1907). Solid rubber tire. C. Motz, Akron, Ohio.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, DECEMBER 31, 1908.]
20,337 (1907). Puncture preventing band of canvas, leather, and metal,

placed between the cover and air tube of a vehicle tire. R. N. Bhabha, Saint Catherine's Park, Surrey.

*20,430 (1907). Detachable side plates for rubber tires other than pneumatic. J. C. Lighthouse, Rochester, New York.

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

392,430 (July 7, 1908). F. J. M. Amondru. Pneumatic tire.

392,449 (July 18). J. Cairns. Pneumatic tire.

392,491 (July 20). A. Rainson. Armored pneumatic tire.

392,601 (July 24). U. Toulouse. Special tread for vehicle tires.

392,603 (July 24). F. André. Elastic tire.

392,740 (July 27). J. Vittu. Cover for pneumatic tire.

392,804 (Aug. 1). A. Rousseau. Pneumatic tire.

392,956 (Aug. 5). G. E. Payenneville. Elastic tire.

392,988 (Aug. 6). Carl Zeiss. Process for covering with an adhering layer of hard rubber, objects of metal, porcelain, glass, or other analogous material.

393,033 (Aug. 7). L'Huillier and Royé. Cover for pneumatic tire.

393,017 (Aug. 14, 1907). P. Foucher. Process and product for the production and repairing of envelopes and especially air chambers for pneumatic tires.

393,092 (July 18, 1908). G. Darroman. Demountable rim for pneumatic tire.

393,153 (Aug. 16, 1907). J. B. Berlier. Elastic tire.

393,159 (Aug. 8, 1908). L. Gaucheraud & Cie. Tire.

393,171 (Aug. 10). C. Hormann. Method of manufacturing pneumatic tires.

393,186 (Aug. 10). Rutgerswerke Aktiengesellschaft. Process for the preparation of products, half or wholly manufactured, of the rubber industry, with the aid of naphthaline and its derivatives.

393,290 (Aug. 12). N. Hornsten and J. Murat. Elastic tire.

393,294 (Sept. 19, 1907). A. Coudol and F. Larru. Pneumatic tire.

393,334 (Oct. 22). G. Plasse. Elastic tire.

393,346 (Aug. 6, 1908). W. Brameld. Pneumatic tire.

393,409 (Oct. 25, 1907). M. Pochet. Cover for pneumatic tire.

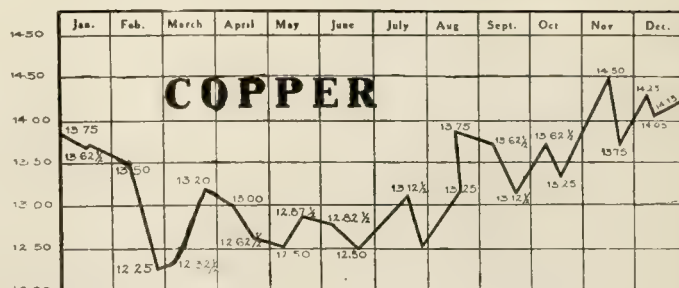
393,436 (Aug. 18, 1908). E. Kempshall. Improvement applied to wheel tires.

393,474 (Aug. 19). M. Byrne. Pneumatic cushion for shoes.

393,509 (Aug. 21). G. A. Bennett and J. A. Smith. Puncture-proof pneumatic tire.

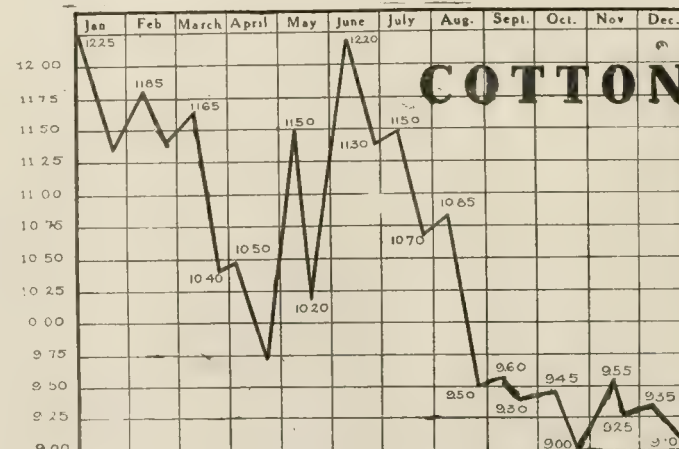
[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villier, Paris, at 50 cents each, postpaid.]

RUBBER MANUFACTURERS' MATERIALS.



RANGE OF COPPER PRICES, 1908.

[Electrolytic Copper, New York Metal Exchange. From the New York Times.]



RANGE OF COTTON PRICES, 1908.

[Middling Upland Cotton, New York Cotton Exchange. From the New York Times.]

Tires at Madison Square Garden.

WHAT was designated as the Ninth Annual Automobile Show, under the auspices of The Association of Licensed Automobile Manufacturers—those who recognize the validity of the Selden patents—held at the Madison Square Garden, New York, January 16-23, undoubtedly was the most extensive, most attractive and interesting automobile exhibition yet held in America, and most representative of the industry. The attendance was larger than at any time in the past, with every evidence that the public not only is all the while becoming more interested in motoring, but that it is becoming more fully informed on the subject. This is not a place for discussing the details of progress in automobile construction, nor yet for mentioning even the individual exhibits in that line. This brief reference to automobiles, however, seems justified, in view of the importance to the rubber trade of the growth of the automobile industry—a growth which is possible only through the constant coöperation of the makers of tires and accessories.

Speaking generally, there were no new "types" of automobile tires shown. But there was evidence on every hand of improvement, comparing the exhibits with those of the season previous, in countless details which go to make for the perfect rubber equipment of the automobile. There is a steady advancement, for example, in the direction of standardization of rubber products in this line, and the accessories—rims, and the like—which are indispensable. At the same time was to be noted an absence of "freak" tires, despite the activity of the patent office during the year in granting tire patents.

THE INDIA RUBBER WORLD has devoted space hitherto, in reporting the automobile shows at the Garden, to "foreign tires," but this year the tire department was wholly American. It is true that names notable in the European tire trade were as prominent as usual, but the tires represented are no longer imported, but made in the United States.

The tire firms exhibiting, listed in alphabetical order, were as follows:

AMERICAN RUBBER CO. Trenton, New Jersey.
 Wrapped tread clincher automobile tires, guaranteed for 5,000 miles.

AMERICAN STEEL, STEEL WHEEL CO. New York.
 The Stepney spare wheel, mounted with an inflated tire, for use on automobiles; an English invention. Shown in America this year for the first time. Fitted for any standard clincher tire.

ATLAS RUBBER CO. Buffalo, N. Y.
 A non-puncture inner case, in which metal disks are arranged in a cushion of rubber to prevent the injury of the air tube.

THE BATAVIA RUBBER CO. Batavia, N. Y.
 Automobile tires to fit any standard clincher rim. Also, a special non-skidding tread, the "Security," applicable to new or old tires. Also, the Batavia outside tire sleeve.

CONSECO RUBBER TIRE CO. New York.
 The Kelly-Springfield pneumatic automobile clincher tire, in round, flat, and Bailey treads. Also, the Kelly-Springfield Sectional tires (solid) for commercial vehicles, single and dual, in which latter form have been made the largest rubber tires yet used in America.

CONTINENTAL CAOUTCHOUC CO. New York.
 The "Continental" tires now sold in America are all of domestic manufacture, with the exception of a few types for which molds have not yet been secured for the American factory. All the well-known types of this make were shown, with the "ready-flated" tire as a specialty.

DAYTON RUBBER MANUFACTURING CO. Dayton, Ohio.
 Dayton airless tire, constructed with interior columnar sup-

ports, instead of air tubes. It is made with various forms of tread.

THE DIAMOND RUBBER CO. Akron, Ohio.
 Diamond wrapped tread tires in many types, demountable rims for carrying inflated spare tires, "grip" tires (anti-skidding), and wire mesh and side wire tires for commercial vehicles.

DOW TIRE CO. New York.
 Dow non-deflation tubes, for tires in American and metric sizes. These tubes are now supplied either at the Dow Company's factory or from the depots of The Fisk Rubber Co.

EMPIRE AUTO TIRE CO. Trenton, New Jersey.
 Clincher tires with raised oval tread or round tread; "Empire" inner tubes; repair outfits.

FAULTLESS AUTO TIRE CO. New York.
 A pneumatic tire with three or four inner tubes, inflated from a single valve, with the idea that in the case of the puncture of one or more tubes, the tire will still retain air.

FIRESTONE TIRE AND RUBBER CO. Akron, Ohio.
 "Firestone" regular clincher; quick detachable clincher; non-skid treads; demountable rims, and special inner tubes.

THE FISK RUBBER CO. Chicopee Falls, Massachusetts.
 "Fisk" bolted on and clincher tires, tire protectors, and pressure gages; inner tube repair outfits.

G & J TIRE CO. Indianapolis, Indiana.
 Standard Clincher, Dunlap, and Quick Detachable, all in smooth or Bailey treads; improved butt end tubes for motor cycle tires.

THE B. F. GOODRICH CO. Akron, Ohio.
 Pneumatic tires in all types, the round tread having preference; Bailey "Won't Slip" and studded treads; Goodrich quick detachable tires; tire tools; tire vulcanizers; inner tube patches. The Goodrich novelty this year is the "Palmer web," a fabric introduced to extend the durability of tires.

GOODYEAR TIRE AND RUBBER CO. Akron, Ohio.
 Goodyear wrapped thread tires, with special "rivet" fabric; quick detachable tires on Goodyear Universal rims; non-skid detachable tires; special inner tubes; air bottles for charging tires.

THE HARTFORD RUBBER WORKS CO. Hartford, Connecticut.
 Hartford clincher, Hartford Dunlop and Hartford quick detachable tires; Midgley treads; Standard Universal quick detachable rims; and an unusually wide range of accessories.

HEALY LEATHER TIRE CO. New York.
 Healy demountable rim; Atlas reinforced non-skid leather tires; Healy method of repairing rubber tires.

LEATHER TIRE GOODS CO. Newton, Upper Falls, Massachusetts.
 Woodworth leather treads, with metal studs; also, rubber and leather treads, repair boots, and inside shoe patches.

MICHELIN TIRE CO. Milltown, New Jersey.
 The American-made Michelin tire; quick detachable rims; red inner tubes; compressed treads; anti-skids; demountable rims; pressure gages and compressed air bottles.

MORGAN & WRIGHT. Detroit, Michigan.
 Regular clincher and Universal Dunlop tires; quick detachable tires; regular, round, heavy flat, and Bailey treads; butt end motor cycle tires.

MOLTZ CLINCHER TIRE AND RUBBER CO. Akron, Ohio.
 Solid clincher tires; new non-skid cushion tires; single and twin solid tires for commercial vehicles.

PENNSYLVANIA RUBBER CO. Jeannette, Pa.
 Regular wrapped tread clincher tires; non-skid tires, studded with case 1 hardened steel and set in a special process leather strip.

REPUBLIC RUBBER CO. Youngstown, Ohio.
 Republic clincher tires; Staggard tread tires; flat tread, corrugated; repair kits and a varied line of accessories.

THE SEAMLESS RUBBER CO.New Haven, Connecticut.
"Kantleek" inner tubes for tires; "blow out" patches and tubes;
horn bulbs and other automobile accessories.

SWINEHART CLINCHER TIRE AND RUBBER CO.Akron, Ohio.
Solid and cushion tires for automobiles and commercial
vehicles; cellular tires; endless motor buggy tires.

TRAYER BLOW-OUT PATCH CO.New York.
A blow-out patch to go inside the shoe of an automobile tire.

TRENTON RUBBER MANUFACTURING CO.Trenton, New Jersey.
Trenton wrapped tread auto tire casings; "Thermoid" linings
for automobile brakes.

VOORHEES RUBBER MANUFACTURING CO.Jersey City, New Jersey.
Non-puncturable cushion automobile tires; solid carriage tires;
pneumatic tire repair work.

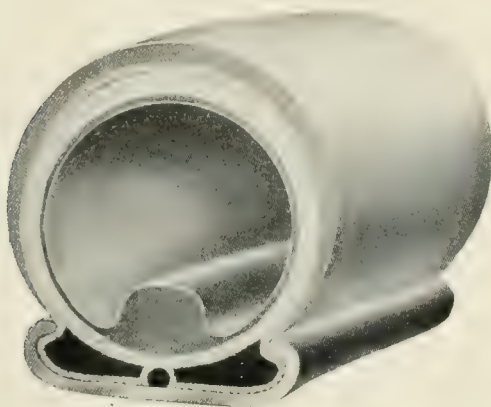


[The Firestone Demountable
Rim.]



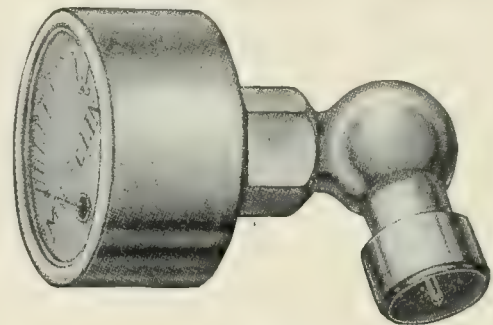
[This tire is lettered "Firestone
Non-Skid."]

FIRESTONE TIRE AND RUBBER CO. EXHIBITS.



SWINEHART SINGLE TUBE TIRE.

[The Swinehart Clincher Tire and Rubber Co., Akron, Ohio.]



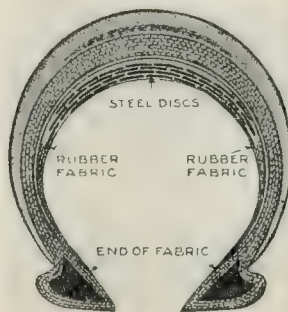
TIRE PRESSURE TESTER.

[Michelin Tire Co., Milltown, New Jersey.]



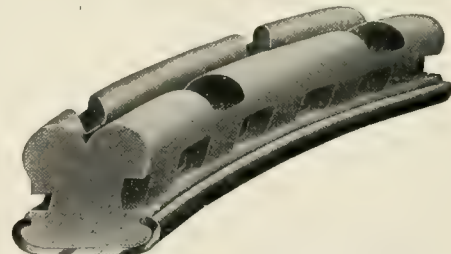
THE SECURITY TREAD.

[The Batavia Rubber Co., Batavia,
New York.]



NON-PUNCTURE INNER CASE.

[Atlas Rubber Co., Buffalo, New
York.]



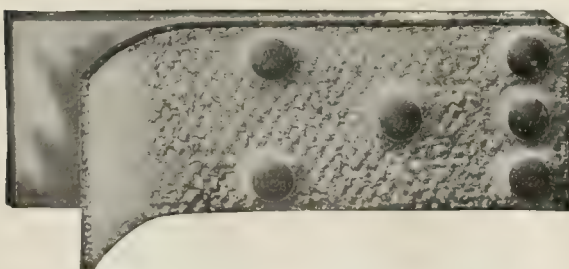
LONG DISTANCE ELECTRIC TIRE.

[Motz Clincher Tire and Rubber Co., Akron,
Ohio.]



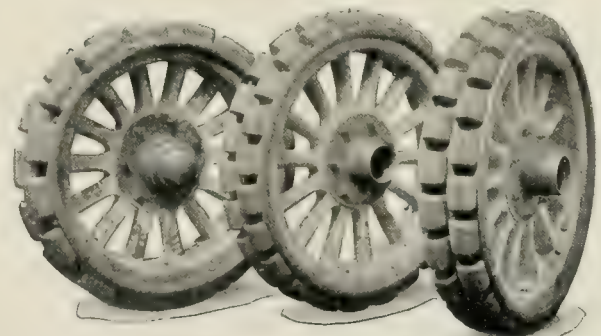
DAYTON AIRLESS TIRE.

[Dayton Rubber Manufacturing Co., Dayton, Ohio.]



"THERMOID" LINING FOR AUTOMOBILE BRAKES.

[Trenton Rubber Manufacturing Co., Trenton, New Jersey.]



KELLY-SPRINGFIELD SECTIONAL TRUCK TIRE.

[Consolidated Rubber Tire Co., New York.]

Tires at the Last French Salon.

THE eleventh annual Salon de l'Automobile, du Cycle, et des Sports—the great French automobile show—was held this season in two departments, the first for a fortnight, closing December 13, having the usual characteristics of the yearly show, and the second, during the week which ended December 30, being devoted more particularly to commercial vehicles. The regular automobile show was the largest yet held in Paris, and perhaps more thoroughly representative of progress in Europe in automobile construction. The prominence of the bicycle attested the continued popularity of this vehicle in France, and an increased number of motor cycles was shown. The most distinct novelty perhaps was in the line of aerostation, but to note flying machines would carry this report too far from its subject—rubber tires.

When mentioned without qualification, a rubber tire in France is simply a "pneumatic," or a pneu—the same tire that has become standard for automobile use everywhere. This type of tire never having been patented in France, the whole rubber industry has been free to work at its improvement, so that a high degree of excellence has been attained. The bicycle tire having been developed into a motor car tire, and up to a stage where further improvement seemed impossible, the inventors turned their attention in two new directions: (1) Special treads for special uses, and especially for non-skidding or puncture prevention, and (2) easily removable rims, which it is now the fashion to replace, in an emergency, with spare rims carrying inflated tires. Under these two heads were very many exhibits at the Salon, though really little new in principle, in view of the development made along these lines during two years past.

Michelin & Cie., of Clermont-Ferrand, in addition to "Michelin" pneumatics for apparently every imaginable requirement, had in their exhibition space many specialties which they control—removable rims, valves, compressed air bottles, pressure indicators, repair sleeves, tire applying tools and the like. It is stated that 1,126 cars on exhibition were equipped with Michelin tires, while the nearest competitor had but 656 wheels to his credit, and a second competitor 274 wheels.

Michelin showed wheels on which were mounted two and three pneumatic tires—"twin" and "triple" tires—intended particularly for commercial vehicles. The idea is to lessen the injury to mechanism from excessive vibration set up with steel or solid rubber tires, where fast running is necessary.

Société Industrielle des Téléphones, Société anonyme, of Paris, with 18,000,000 francs capital, have a wide range of manufactures in rubber, including an extensive pneumatic

tire department. Their exhibit included "L'Electric" tires of various types and of many sizes, including special treads, repair accessories, valves, lugs, etc.; also rubber mats for automobiles, waterproof covers, and insulated wires.

Etablissements Hutchinson, Compagnie Nationale du Caoutchouc Souple, of Paris, now capitalized at 6,000,000 francs, exhibited "Hutchinson" pneumatics, standard and special, with many accessories.

Société Lyonnaise de Caoutchouc, of Paris, with works at Lyon-Villeurbanne, exhibited pneumatics for automobiles, motor cycles, and cycles, with round and flat treads, smooth or corrugated; detachable treads, repair accessories, and so on. The company are capitalized at 1,000,000 francs, and manufacture hard and soft rubber goods generally.

Other French exhibitors of tires were Falconnet-Pero-deaud, of Choisy-le-Roi; Bergouan & Cie., of Clermont-Ferrand, with "le Gaulois" tire; the newer Société Parisienne du Caoutchouc Industriel, the "Lutetic" tire, and Société Générale de Pneumatiques, of Paris, the "Mercure," with special wire protected tread. L. François, A. Grellou & Cie., of Paris, exhibited "Sidéral" pneumatics. L. Edeline, of Puteaux, exhibited "Gallus" pneumatics and automobile accessories. The Manufacture de Caoutchouc A. Soly, of Lyon, exhibited the "Soly" pneumatic.

A. Wolber, of Vailly-sur-Aisne, exhibited a novelty described as a "double tube demontable," a pneumatic for bicycles, which is held on a simple wooden rim simply by the inflation. Wolber mentions the growth of his bicycle tire production from 48,850 tires ten years ago to 351,903 for the year just closed.

The India Rubber, Gutta Percha and Telegraph Works Co., Limited, who maintain works in France at Persan (Seine-et-Oise), exhibited their "Persan" tires for motor cars and bicycles. The affiliated company, The Palmer Tire Co., Limited, of London, were represented by the "Palmer Cord" tire.

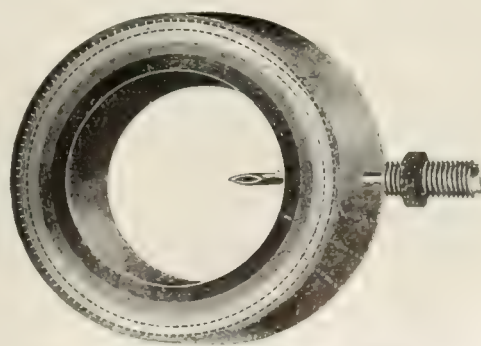
The "Dunlop" and "Continental" tires, of course, were shown also, though of foreign manufacture. The latter company, with one of the largest displays at the show, emphasized the victory of their tires at the Grand Prix of 1908.

A novelty in the Paris show—though its basic principle was employed years ago in tire making in the United States—was exhibited by a new French company, "La Sans Valve." It is a "hose pipe" cycle tire, the inner part of which is a layer of unvulcanized rubber. Air is admitted by puncturing the tire, with the idea that when the inflater is withdrawn the puncture will heal at once, thus retaining the air.

America was represented particularly by "le pneu Goodrich," made, of course, by The B. F. Goodrich Co., of Akron,



WOLBER DOUBLE TUBE CYCLE TIRE.



SECTION OF "SANS VALVE" TIRE.

Ohio, and exhibited through their house in Paris, 2 rue Brunel. Their space was No. 29 in the balcony of the Salon d'honneur, near the Dunlop and Continental exhibits.

Not far away were the Russian-American India-Rubber Co., of St. Petersburg, with pneumatic tires and fabrics for dirigible balloons. It will be seen, then, that French makers did not have the exhibition all to themselves, however much they may monopolize the home trade when selling tire covers.

The Kempshall Tyre Co. of Europe, Limited, of London, showed a new removable rim and the special tread for pneumatics that has been illustrated in THE INDIA RUBBER WORLD.

Eleazer Kempshall, the inventor of this tire, is an American, as was John F. Palmer, whose invention was the basis of the present "Palmer Cord" tire. The founder of the Hutchinson house was an American, and an original element from the United States is suggested in the name of the Russian-American company. The only out-and-out American exhibit at the Salon, however, except a few makers of automobiles—was the tire display of Goodrich, though the European concessionaire of The American Wood Rim Co. occupied space.

The Samson leather tires were exhibited, the Stepney spare wheel, and practically everything in the world of tires or appertaining thereto. The interest which the whole attracted, as well as that devoted to the cars on exhibition, suggests that the French public, instead of becoming tired of automobile shows, is becoming more addicted to the show habit.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

WITH the first of the new year came a better feeling for the future business interests on the Pacific coast. Financial conditions, while not yet entirely as good as before the fire, are rapidly approaching that condition, and every merchant remarks how much easier money is to get now than it has been for over two years. Lately there have been heavy rains throughout California, and although they have caused disastrous floods through portions of the Sacramento valley, yet the great good which they have done to the farming portions of the rest of the state, more than compensates for the loss. The rains offer positive assurance that the coming year will be a prosperous one. In San Francisco there is no longer heard any complaint, and the rubber dealers are preparing for an active year. Despite the large number of rubber houses in the city, all of them have succeeded in pulling through the quiet times, and the fact that they are now ordering extensive stocks is a fair indication that they are in a satisfactory position.

Mr. R. H. Pease, president of the Goodyear Rubber Co., reports that since the first of the year business has been picking up, and that they are now running ahead of January of last year. Last year's business in the line of boots and shoes was naturally very dull, because it was an unusually dry fall and many of the retailers were forced to carry large stocks over from their purchases of 1907, which, of course, brought the sales down lower than they would have been if there had been better fall rains. The recent big rains are a fine thing, and Mr. Pease feels that the stocks in the hands of customers will be greatly reduced. Mr. Pease, accompanied by his son, has gone to the company's Portland house, and during the latter part of February he will visit New York.

The latest report from the Bowers Rubber Works shows that the firm is doing an active business. Their factory at Black Diamond seemed for a while to be in danger from the rising waters of the floods from the Sacramento river, but that danger was soon past. This firm has landed a big contract for furnishing rubber dredging sleeves for the Panama canal—the first contract that has been awarded to any of the Pacific coast rubber

houses for supplies by the Isthmian canal commissioners. The factory will have to supply so many every month, and with what work they already have they are assured of a busy season.

Mr. J. L. Phillips, general manager of the fire department supplies handled by the Gorham Rubber Co., is in San Francisco looking after the department here. Mr. Phillips makes his home in Seattle, Washington, and reports that business of all kinds has shown great improvement there in the past few weeks. Quite a number of the big lumber mills have burned lately and the owners have awakened more fully to the importance of putting in efficient fire departments. They have heretofore overlooked their fire protection to a large extent, and the stir which the fires have created has given the fire protection business a big boost.

Mr. Phillips states that in Seattle great preparations are being made for the Alaska Yukon Pacific Exposition, to open some time in May or June of this year. Mr. Phillips lately visited the Los Angeles branch of the Gorham Rubber Co., as also did Mr. William J. Gorham, president of the company.

Mr. C. H. Brown, with the Gutta Percha and Rubber Manufacturing Co., states that he finds an active call for larger belts than were ordered last year, and some very large orders have been placed, indicating that millmen are anticipating a bigger year.

Mr. Ralph, one of the proprietors of the Phoenix Rubber Co., states that the financial end of business is much better in tone. Money is easier and business is getting back to a firm, steady basis. This firm has been doing particularly well on the output from the Republic Rubber Co. (Youngstown, Ohio), especially in their Staggard tread tires.

J. C. Martin & Co., coast agents for the Anchor Packing Co., are now doing a nice business in their new quarters, at No. 562 Howard street.

Mr. C. E. Mathewson, Pacific coast manager for The Diamond Rubber Co. (Akron, Ohio), has returned from Seattle, Washington, where he established a new branch for the company. Donald McKay, who has been looking after the interests of The Diamond Rubber Co. in the north for many years, has been placed in charge as manager of the Seattle branch. Mr. Mathewson has since gone to visit the factory at Akron, and to take in the New York automobile show. Business at the Los Angeles branch of the Diamond company has increased materially of late, and they have found it necessary to increase their traveling forces.

Mr. F. C. Anderson, representing the Electric Hose and Rubber Co., is now located at No. 420 Mission street.

Activity down on the water front, according to Mr. Sprague, who devotes most of his attention to demands for rubber supplies from that source, is increasing. Shipping is now quite active, and the teamsters are witnesses to the fact that traffic has about doubled during the last two weeks. Everything is moving along better except the lumber business, which is still rather inactive.

The Pacific Coast Rubber Co. find that there is an increased demand for goods in their lines, and they believe that the next month or two will see a marked improvement in business.

TO GO OVER NIAGARA IN RUBBER.

THE New York Sun printed this dispatch from Niagara Falls, Ontario, under the date December 21:

"Another man is planning to try the trip over the Horseshoe Falls, in a vehicle different from anything that has been tried before. It is an immense rubber ball which is now being constructed by a rubber company in the United States. The voyager is Robert Leach, of Chippewa, and he plans to make the perilous trip next June. There will be two balls, one within the other. The outer ball will be 13 feet in diameter, and the inner one, in which Leach will hazard his life, 11 feet in diameter. The inner ball will be held in position by four spiral steel springs and sufficient oxygen will be pumped into it to give the man a bare chance for life if anything goes wrong."

Trade Conditions in Rubber Footwear.

THE United States consul general at Smyrna devotes a recent official report to the rubber shoe trade in Turkey, with the conclusion that the American share in this trade might be augmented. He estimates the present imports of rubber footwear at the port of Smyrna at \$97,000 a year, the United States contributing 40 per cent.; Austria, 35 per cent.; Russia, 15 per cent., and England and Germany each 5 per cent. He writes that the rubber shoe trade in Turkey "should not be treated as an emergency outlet in case of dull trade at home. Now is the time to secure this trade and hold it. While the trade may be small in the beginning, yet there are many millions of people living in Asia Minor who are rapidly realizing the benefits of all articles of modern dress, and during four months of the climate rubber shoes are indispensable articles." The chief competitor with the American rubber shoe, says the consul general, "will be the Russian shoe, which is of good quality and brings a higher price than any other sold at present, but it is not considered stylish, and its heavy shape retards its sale."

The United States during the fiscal year 1907-08 exported direct to Turkey rubber boots and shoes as follows:

	Pairs.	Value.
Turkey in Europe.....	151,131	\$74,731
Turkey in Asia.....	18,946	10,934
Total	170,077	\$84,765

To go back ten years, the exports for the fiscal period 1897-98 were:

	Pairs.	Value.
Turkey in Europe.....	588	\$325
Turkey in Asia.....	150	80
Total	738	\$405

Rubber goods other than footwear exported direct to Turkey increased in value from \$191 in 1897-98 to \$8,364 in the year ending June 30, 1908.

RUBBER SHOES IN THE WHOLESALE TRADE.

At the eleventh annual meeting of the Western Association of Shoe Wholesalers (Chicago, December 18), the retiring president, Mr. E. F. Carpenter, in his address, said in part:

"Heretofore the work of the association has been largely in connection with the rubber business, but the past year has been different in this particular.

"At the outset of the year, 1908, we had quite a number of complaints of irregularities, in all about 45. They were promptly taken up, sifted out, and in nearly every instance we found that the retailer was attempting to work one salesman against another to get a concession in price. A good many of these cases were settled by the secretary going direct to the dealer, in some cases accompanied by the salesman connected with the complaint. Each one of these instances was amicably settled.

"It is significant that so few instances of irregularities have occurred this year as compared with other years—here we are commencing to reap the benefit of our better acquaintance with each other and the work of the association—especially so in consideration of the fact of the reduced sale in rubbers, particularly in the early part of the season, which, as you all know, was attributable to two causes: First, the mild winter of last year which reduced the sales and left comparatively large stocks in the hands of the dealers; second, no inducement in price was offered for early orders.

"If we get the good, old-fashioned hard winter this year that is predicted, it will clean up stocks in good shape

And if the rubber manufacturers decide to give an inducement in price for early orders next season, we will have a 'killing' in the rubber business next year. Let's all make up our minds to retain our regular profit on the merchandise and make the outcome of our year's business show a handsome gain.

"Our relations with the rubber manufacturers to-day are on a different basis from ever before. The companies evince a desire to do everything in their power to make our dealings with them agreeable; and they give our suggestions and recommendations a consideration never before accorded us as individuals. This I firmly believe is almost wholly due to the fact that the wholesalers have formed themselves into associations for their own protection and benefit."

The officers elected for the current year were: Charles L. Swarts, of St. Louis, president; I. H. Sawyer, of St. Louis, vice-president; S. W. Campbell, Continental National Bank building, Chicago, secretary (re-elected); and an executive committee of 12. The new president is connected with the Wertheimer-Swarts Shoe Co., of St. Louis.

The attendance at the annual banquet, on the same date, included a goodly percentage of rubber shoe jobbers and of representatives of rubber manufacturing firms.

HIGHER RUBBER FOOTWEAR PRICES.

NEW price lists and new discounts were issued by the rubber footwear manufacturers, to take effect from January 1, 1909, the changes involved being the first since the beginning of 1907. Such changes as have been made in gross prices are in the nature of advances, applying to items here and there throughout the lists, and not following, so far as is apparent, any particular rule. Thus the standard short boot remains at the same price as before; men's Storm King boots are 20 cents higher, and two dozen or more other items in boots are higher by 5 to 20 cents. Most classes of shoes show an advance in some of the items, but generally this applies to men's goods rather than to women's and children's sizes. The advance ranges from 2 cents per pair on sandals to 25 cents on misses' "Empress" goods.

The discounts to retailers this year differ from last year's in that an item of 3 per cent. is left off in each case. That is, first quality goods carry a single discount of 25 per cent., instead of 25@3, as formerly. The rates now are:

First quality (except Woonsocket and Meyer).....	25%
Woonsocket and Meyer brands	25@ 5%
Second quality (except Rhode Island and Jersey).....	25@10%
Rhode Island and Jersey.....	25@10@ 5%

There will be a special and extra discount of 5 per cent., however, in effect until May 1, 1909, to encourage the early placing of orders, and this is to be added to the discounts in the above table in considering present prices.

On the whole, rubber shoe prices are higher, but it would be practically impossible to say how much so. Last year, a man's short boot, listed at \$4.20, with 25@3 per cent. off, cost the retailer \$3.06. This year, at the same list, with the regular discount and the extra 5 per cent., the cost is \$2.99; after May 1 it will be \$3.15. Men's plain sandals, listed last year at 92 cents, cost the retailer 67. This year, listed at 95, they will cost 68 cents until May 1 and 71 cents thereafter.

The most expensive item of rubber "boots and shoes" in the lists just issued for the current year is "men's body boots," selling price of which is \$12.50. The next highest item is the "Jumbo" boot, at \$10. The scale then descends to \$7.45, the price

of "men's duck firemen's sporting boots." By the way, how a fireman's sporting boot differs from a sportsman's fire boot is not indicated. These items appear in the "Unlisted List" of the United States Rubber Co. When more usual prices are reached, the highest is \$7, the figure for men's hip Khaki boots, and then \$6.85 for men's hip duck boots, supplied by most of the factories of the United States Rubber Co. The bottom price in the regular lists is 44 cents, the price of some grades of children's overshoes. The lowest net price of any 44 cent article is 28 cents, but the net price lists of the "Empire" and "Colonial" brands include items so low as 25 cents, for children's croquets, spring heel.

RUBBER SHOE PRICES IN CANADA.

IN relation to a proposed change in dealing with the announcement of prices of rubber boots and shoes for the Canadian trade, a prominent firm of manufacturers in the Dominion write to THE INDIA RUBBER WORLD:

"For some time the trade generally in Canada have asked that

rubbers be sold at net prices, similar to the prevailing custom in the leather shoe business, instead of gross with retailer's discount.

"While not of necessity so intended, the list prices are pretty generally regarded as the retail prices to consumers, but in certain sections, where freights and business expenses rule high, it is contended that the retailer's discounts from gross list prices do not afford an adequate retailer's profit. It is thus difficult to adjust a set of gross list prices satisfactory to all sections. Therefore, with the desire of meeting the wishes of the trade, we are considering the advisability of issuing our forthcoming illustrated catalogues without prices, so as to give the new method a practical trial. At the same time we purpose issuing a separate folder containing the net prices.

"These net prices would represent the equivalent of gross list prices with the initial trade discounts deducted therefrom, and subject only to the wholesaler's discounts and early order discount if such is arranged. Our current shoe year extends to the end of February. New catalogues, therefore, will not be issued until March 1."

Rubber in Balloon Construction.

THE amount of rubber which has gone already into the construction of balloon fabric must be very considerable, though no statistics on this point are yet available. Interest in aeronautics has of late become very widespread, being stimulated by the activity of most of the European governments, as also that of the United States, in military aërostation, though perhaps by this time the actual demand for balloon fabric has been greater from the various aëro clubs organized for purposes of sport.

THE INDIA RUBBER WORLD of October 1 last, in an article devoted to this subject, mentioned a paper by Mr. Octave Chanute, published in 1891, in which he expressed himself as able to record little more advance in aerial navigation than the evidence that in popular opinion it was "no longer regarded as wholly impracticable and visionary." There lies before the writer a list of no fewer than 18 papers on aerial navigation published by Mr. Chanute since the date referred to, the whole recording a remarkable degree of advance in this field. This list of papers, by the way, occurs in a bibliography of several hundred titles, by authors, for the most part, of distinction, in every civilized country. It may be mentioned that there are to-day upwards of 20 periodicals devoted exclusively to aeronautics in the United States, England, France, Germany, Austria, Italy and Europe; three international scientific societies devoted to the subject, and about 50 other societies, either for the scientific study of aeronautics or for the promotion of sport in this field, of which no fewer than 14 exist in the United States, 13 in Germany, and 11 in France.

These details are given merely to indicate the growing interest in aeronautics and the extent to which the new science and sport have extended. In connection with a former article in this paper appeared a view of 31 large balloons being inflated for a race promoted by a single aëro club in England. Seven European countries maintain "balloon troops" engaged exclusively in aeronautical work, their number aggregating recently 157 officers and 4,562 men, on a peace basis, while the existing schedules provide for the larger balloon troops to be employed in case of war.

The interest of all this to the rubber trade is that so many of the balloons being manufactured are enveloped in rubberized fabric, while rubber enters also to a certain extent in the manufacture of the various types of flying machines. The quality of these fabrics has been discussed hitherto in these pages. It may be of interest here to give some further details relating to balloon envelopes, from a paper on "The Present Status of Military Aeronautics," presented by Major George O. Squier, PH. D., of the United States army signal corps at the New York meeting, in

December last, of the American Society of Mechanical Engineers. Describing the "Patrie," a military dirigible balloon made in France, Major Squier says that the gas bag consists of four layers arranged as follows and having the weight in ounces per square yard indicated by these figures:

Outer layer of cotton cloth covered with lead chromate.....	2.50
Layer of vulcanized rubber.....	2.50
Layer of cotton cloth	2.50
Inner layer of vulcanized rubber.....	2.21
Total weight	9.71

A strip of this cloth one foot wide tears at a tension of about 934 pounds. A pressure of about 1 inch of water can be maintained in the gas bag without danger. The lead chromate on the outside is to prevent the entrance of the actinic rays of the sun, which would cause the rubber to deteriorate. The heavy layer of rubber is to prevent the leaking of the gas. The inner layer of rubber is merely to prevent deterioration of the cloth by impurities in the gas. This material has the warp of the two layers of cotton cloth running the same direction and is called straight thread.

The details of the gas bags of another French military dirigible balloon, the "Republique," are given as follows, the figures relating to weight in ounces per square yard:

Outer yellow cotton layer.....	3.25
Layer of vulcanized rubber.....	3.25
Layer of cotton cloth.....	3.25
Inner layer of rubber.....	0.73
Total weight	10.48

Regarding the airship "Ville de Paris," Major Squier states that the gas bag is made up of a series of strips perpendicular to a meridian line. These strips run around the bag, their ends meeting on the under meridian. This is known as the "brachistode" method of cutting out the material, and has the advantage of bringing the seams parallel to the line of greatest tension. They are therefore more likely to remain tight and not allow the escape of gas. The disadvantage lies in the fact that there is a loss of 33½ per cent. of material in cutting. The material has approximately the same tensile strength and weight as that used in the "Patrie." It differs from the other in one important feature—it is diagonal thread; that is, the warp of the outer layer of cotton cloth makes an angle of 45 degrees with the warp of the inner layer of cotton cloth. The result is to localize a rip or tear in the material. A tear in the straight thread material will continue along the warp, or the weave, until it reaches a seam.

In some of the German airships the envelopes are made of rub-

ber cloth similar to that already referred to—diagonal thread—but without an inner layer of rubber, since the makers do not fear damage from impurities in the hydrogen gas.

The balloon fabric used on the airships and balloons mentioned thus far is of German manufacture. The subject of military aëronautics has been taken up in earnest by the signal corps of the United States army, with results of real interest, not the least important of which is the success achieved in the manufacture of balloon fabric in this country. The fabric used for the dirigible balloon accepted by the government from Captain Thomas S. Baldwin, of New York, is made of two layers of Japanese silk, with a layer of vulcanized rubber between, and this was supplied by a leading American rubber manufacturer. The gas bag used by Captain Baldwin is 96 feet long, with a maximum diameter of 19 feet 6 inches, and a volume of 20,000 cubic feet.

Some details of the size of the more notable air ships may give an idea of the amount of fabric required for their construction:

Patrie	cubic feet	111,250
Republique		131,000
Ville de Paris		112,847
English Military Dirigible No. 1		84,768
Gross (German)		63,576
Parseval		113,000
Zeppelin (16 gas bags)		460,000

The surface measurement of these is not given, with the exception of the "Ville de Paris," the envelope of which has a surface of 19,676 square feet.

* * *

THE following is an extract from a letter to THE INDIA RUBBER WORLD by Captain Thomas S. Baldwin:

"I have read carefully an article in your October issue on 'Aëronautics and the Rubber Industry.' It was very good, but you did not bring out the strong points of the vulcanized proof material. As a matter of fact the rubber material is lighter in weight than the varnished material, and also it will stand any degree of cold. Many such things as that is what makes it the coming material for balloon purposes.

"I am very glad to see your paper take the interest in it that you have, as it will all do its help toward the ultimate using of rubber fabric for balloon purposes.

"I have seen the aëronauts of the middle west, and it is fearful the 'knock' they are putting up against the rubber fabric, principally on account of the price, but we will gradually overcome this objection.

"In 1891 and 1892 THE INDIA RUBBER WORLD assisted me very materially in getting the data for this very same material, and I have always felt very kindly toward it."

* * *

TO THE EDITOR OF THE INDIA RUBBER WORLD: In reference to rubberized balloon material, we are using the French, German and American made materials. This material is not new, by any means; it has been in existence for the past ten years, and its great cost is its drawback. There is no great advantage of this material when it is taken into consideration that the ordinary unvulcanized rubber and varnished materials mixed stand five or six years' wear, and the balloon is usually ripped up before being decayed. It is true that the rubberized materials are a little stronger on account of their double and triple thickness material, but the weight added thereon robs them of their ascensional growth.

New York, January 5, 1909.

A. LEO STEVENS.
[Balloon Constructor.]

DR. JOHN C. WILLIS, director of the royal botanic gardens of Ceylon, in a note to the *Ceylon Observer*, says that he has always been against the tapping of cultivated *Hevea* before the fifth or sixth year, and that he considers all rubber trees under ten years young trees.

HERR PRINZHORN ON PLANTATION RUBBER.

THE rubber planting regions of Malaya and Ceylon are being visited at present by Herr Adolf Prinzhorn, managing director of the Continental Caoutchouc- und Guttapercha-Compagnie, of Hanover, Germany, who has expressed a great interest in the progress of rubber culture, though it does not appear that he has invested any capital in it, at least in the Far East. In an interview with Herr Prinzhorn the *Ceylon Observer* reports him, in part, as follows:

"Pará rubber has gone up 60 per cent. since March," said Mr Prinzhorn.

"What are the causes?"

"It would be better if you asked me what it declined previously to then. It was, to a great extent, due to the American crisis. The American factories were working only half-time in many cases, whereas they are now working full time. The price was 2s. 9d. then—much too low—and it is now about 5s., which is much too high. I should think a fair normal figure would be 3s. 6d. to 4s. a pound. While it is as high as at present there is not likely to be any increase in the uses of rubber."

"What will bring the price down?"

"An increased output of plantation rubber, every ounce of which that is sent over to Hanover, sells. Yes, I think the German manufacturers like plantation rubber. We can use it for most of the articles that we manufacture, though not all. I think that the best Ceylon rubber is equal to fine Pará. Ceylon rubber is liked generally."

"In what form is it preferred?"

"Well, that is difficult to say, crepe or dry blocks."

"Will the present good demand for rubber be maintained?"

"Yes, I think so; there is every reason for it doing so. It is partly speculation that causes the fluctuation in prices, so far as I can see. If the output becomes largely increased and the price comes down, of course, many new uses for rubber will be practicable and the many substitutes for rubber which are on the market will disappear."

"Where do you buy your rubber, Mr. Prinzhorn?"

"I buy in the cheapest market. When I can get it cheaper in New York, I buy it there; if in London, then in London I buy. We use something like 200 tons of rubber a month in our factory."

In an editorial note *The Times of Ceylon* remarks upon the use of 200 tons of rubber per month by Mr. Prinzhorn's company, whereas the average monthly export of plantation rubber from Ceylon has not yet exceeded 28½ tons. The *Times* says: "The fact that one manufacturing firm alone consumes about seven times as much as this island produces will go to show what little influence on prices our rubber can have at present. Even for 1910, Mr. H. K. Rutherford's estimate of the output of *Hevea* rubber of the whole of Asia is 3,520 tons, as compared with 2,400 tons used by this one company of manufacturers."

Mr. Prinzhorn mentioned in an interview for the *Times* a marked improvement in plantation rubber now as compared with a few years ago. He had recently seen samples of plantation rubber equal to the best Pará. It was being used in his factory for nearly all purposes for which Pará is employed.

A GOVERNMENT RUBBER PLANTATION.

Bids were invited by the conservator of forests for Eastern Bengal and Assam (India) up to January 15 for produce of the government rubber plantations of Charduar and Kulsi for the fiscal year 1908-09, estimated at 12,000 pounds for Charduar and 4,000 pounds for Kulsi. At Charduar exists one of the earliest rubber plantations in the world, systematically laid out, and no other was ever written about so extensively. It was purely a government undertaking for experimental purposes, and is still practically so. The rubber species is *Ficus elastica*, and the enterprise has no connection with the introduction of *Hevea* into Ceylon and Malaya.

A Successful "Castilloa" Rubber Planter.

THE subject of this sketch, Mr. James C. Harvey, whose portrait is here reproduced, was born at Hamilton, Ont., Canada, of Scotch and English parentage, and received his education in the public schools of the Dominion. He early evinced a great desire to see tropical countries, which led to his accepting employment as purser's clerk in an American steamship line, trading between New York and West Indian and Central American ports, as a means to this end. Soon afterward he succeeded in joining one of the large British mercantile fleets sailing from England, and Mr. Harvey became an articled apprentice in the Castle line, owned by Sir Donald Currie & Co., of Liverpool. This service extended over a period of nearly six years, during which Mr. Harvey visited South Africa, India, Ceylon and Australia, making also several sojournings of some length in planting districts in the Indies.

He took advantage of the opportunities thus afforded to study tropical agriculture under many varying conditions and to advance a deep inborn taste for botanical and horticultural pursuits. He subsequently voyaged to the east and west coasts of South America, finally arriving in California, where he settled, married, and became an American citizen. He engaged for some time in manufacturing, commercial, and horticultural work; but the ruling passion of his life was not to be quenched, and about ten years ago he went to Mexico, and spent the greater part of a year in examining the planting regions in the states of Veracruz and Oaxaca, with a view to reëntering the field of tropical agriculture. The result of this tour was that, in company with a few associates, he acquired about a thousand acres of land, situated in what is known as the Trinidad valley district, in Veracruz, to which he gave the name of "La Buena Ventura," and about one-half of which he has since developed, and devoted principally to the cultivation of rubber (*Castilloa elastica*) and cacao (*Theobroma cacao*). In the possession of his picturesque palm thatched house, surrounded by a rare profusion of exotic, economic, and ornamental flora from all parts of the tropics, Mr. Harvey feels that the gods have granted him in generous measure the fulfilment of his earliest and fondest ambitions.

A man of thought and of action, with a keen sense of humor, an enthusiastic botanist and collector of *lepidoptera*, a cosmopolitan of the broadest sympathies and interests, and a *raconteur* of no mean ability, Mr. Harvey combines in his many-sided personality all the qualities that go to the making of a delightful companion and staunch friend—on the strength of which, as well as by reason of his recognized scientific and practical knowledge of tropical agriculture, he justly enjoys a wide popularity amongst the planters of the isthmus of Tehuantepec and others with whom his vocation brings him in touch. Himself an ardent lover of the soil and an indefatigable worker, imbued with the Carlylean gospel of duty, Mr. Harvey has the happy faculty of inspiring all who came into contact with him with a sense of the dignity of labor and the importance of honest effort.

It should not be overlooked that to Mr. Harvey belongs the credit of introducing many useful plants hitherto unknown to Mexico, such as the East Indian jack fruit, cinnamon, African

akee fruit, Surinam cherries, grafted Indian mangos, cardamons, economic bamboos; Indian, Malayan and South American palms; fiber producing plants, such as *Sansiviera Zeylanica*, *S. Guinien-sis*, and the famous Manila hemp plant (*Musa textilis*); also many newer varieties of pineapples, bananas, oranges, etc., besides an infinity of flowering trees, shrubs and creepers, the cultivation of all of which, with very few exceptions, has proved entirely successful.

Mr. Harvey has long been a correspondent of the principal botanical stations in the tropics, including the royal botanic gardens at Calcutta, Peradeniya, Singapore, Natal, Mauritius, Seychelles, and the Gold Coast, as well as the famous institution at Kew, London, this correspondence relating to the results of experience and new ideas in planting methods, and the interchange of seeds and plants adapted to the respective climatic conditions.

It is what Mr. Harvey has done in the culture of the *Castilloa* rubber, however, that will most appeal to the readers of this sketch. He has studied the tree under all conditions as no one else has; has examined soils where the tree flourished and where it did not, made careful records of rainfall and temperature, and noted the effect of all, not only upon the growth of the tree, but upon the amount and quality of the latex produced. He has studied the seeds with the idea of discovering why certain of them produced vital, thrifty, trees, and so many other trees of a mediocre quality. It was he who discovered that after *Castilloas* had grown like weeds for four or five years and then apparently stopped for one or two, that it was because the quality and depth of the soil had not encouraged the growth of large laterals to furnish nutrition, when the tap root had done all it could. He was also the pioneer in stopping the careful cleaning under which grass flourished and allowing a carefully regulated jungle growth to cover the ground between the trees without robbing the soil to the detriment of the rubber tree. He was the first to advocate for plantation work a simple,

inexpensive native method of coagulation, and one of the first to appreciate and use the tapping tool that most Mexican planters to-day have adopted. With all his traveling, correspondence and plantation work, he keeps open house, and of the scores of travelers who have received his hospitality there are none but what go away impressed with his force, originality, capacity, and knowledge.

Mr. Harvey's career in connection with Mexican rubber planting is all the more interesting, in view of the fact that his work as a pioneer has been based largely upon individual initiative, and not supported by a large corporation, as in the case of so much planting in that country.

THE Mabira Forest (Uganda) Rubber Co., Limited, a £120,000 company organized in London in 1906 to operate in British East Africa, employing improved methods for dealing with *Funtumia elastica* trees, are shipping rubber. At a late London auction 165 packages sold for their account brought up to 4s. 1d. [=99½ cents] for dark sheet and 3s. 3d. [=79 cents] for rough sheet scrap. At the last Antwerp inscription a small amount of Uganda plantation rubber was offered.



JAMES CLAY HARVEY.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

AT an informal meeting of tire manufacturers, including representatives of the Akron trade, held during the progress of the Grand Central Palace automobile show in New York, views were exchanged on the outlook for the coming season, and the conclusion was reached that all the tire factories of the United States cannot supply the demand for tires that 1909 promises. This conclusion was based on the estimate reached by automobile manufacturers that their output during 1909 will exceed 70,000 cars. This, of course, means that 70,000 sets of tires will be required, in addition to the equipment needed for replacements on old cars. This conclusion, it is believed, will have a wholesome effect in preventing the present tendency toward price cutting, which has caused some apprehension among manufacturers during the last year. It is in anticipation of this enlarged demand that Akron manufacturers have been hastening to increase their factory capacity. An estimate made by a representative of a rubber company who is closely in touch with the trade situation places the output of automobile tires in Akron factories during 1909 at more than \$15,000,000.

At the annual meeting of shareholders of The B. F. Goodrich Co., on January 20, the following directors were reelected: George W. Crouse, George T. Perkins, B. G. Work, Frank H. Mason, Elmer Shaw, Charles C. Goodrich, and H. E. Raymond. All live in Akron with the exception of Mr. Goodrich, whose home is now in New York. The directors on the same date reelected the following officers: George T. Perkins, chairman of directors; B. G. Work, president; Frank H. Mason, first vice-president; H. E. Raymond, second vice-president; Charles B. Raymond, secretary; Walter Folger, treasurer; W. A. Means, assistant treasurer; Elmer Shaw, general manager of works. The meeting was formal in its nature, and, according to the policy of the company, no financial statement was made public. A large increase of business is expected during the present year, to correspond with the extensions in the factory.

W. E. Hemenover has been promoted from the position of manager of the boot and shoe department (No. 25) of The B. F. Goodrich Co., to that of assistant general superintendent of the factory. The latter position has been vacant since over a year ago, when H. E. Joy, then assistant general superintendent, was advanced to the position of general superintendent, to succeed C. C. Goodrich, who then retired from active participation in the industry. Mr. Hemenover was secretary and superintendent of the Banner Rubber Co. (St. Louis) until January, 1904, when he disposed of his interest there and came to Akron to establish the Goodrich boot and shoe department.

Though the fine weather conditions in the early part of the winter have made it necessary to cut down the production of rubber shoe factories in the East, the Goodrich company have made no change in its working force in their shoe department, and have received orders sufficient to take care of the product of the shop.

INFORMATION from Ashland, Ohio, is to the effect that the volume of business at the plant of the Faultless Rubber Co. has increased so rapidly that further expansion has been made necessary. The construction of large additions to the factory is announced for the early spring. The Faultless plant was moved to Ashland from Akron several years ago.

SOME of the rubber manufacturers are seeking to put a stop to the operations of certain organizations, among which are the "International Automobile League" of Buffalo, "The Coöperative Auto Association of America," New York; and the "Bureau of Automobile Auditors," New York. These concerns are said to advertise that they are able to supply tires and other accessories

to consumers at dealers' prices. To be able to sell tires at such prices it is necessary to obtain trade discounts from manufacturers. The latter are attempting to detect, by means of the serial number of tires sold, through what channel they left the manufacturer, with the intention of cutting off discounts from any dealers who sell tires in this manner.

* * *

OFFICERS of the Swinehart Clincher Tire and Rubber Co. planned to double the output of the factory during the coming year, at the annual meeting, held on January 20. The following officers and directors were reelected: President, J. A. Swinehart; vice-president, B. C. Swinehart; secretary and treasurer, C. O. Baughman; directors, J. A. Swinehart, B. C. Swinehart, C. O. Baughman, J. W. Beck, W. J. Frank and M. S. Rudgers. The usual dividend of 8 per cent. was declared.

The Swinehart company have granted the Canadian rights for the use of their patents to the Durham Rubber Co., of Toronto. J. A. Young, general manager, and J. C. Sterns, superintendent of the Durham company, were in Akron on January 11 to close the contract. Royalties are to be paid to the Swinehart company. The tires will carry the names of both companies.

CHARLES B. RAYMOND, secretary of The B. F. Goodrich Co., on January 12 was elected to the presidency of the Akron Chamber of Commerce. This comes as a recognition of Mr. Raymond's standing as a manufacturer in the community, and of his activity in the organization of the chamber. Mr. Raymond is a comparatively young man, and has risen rapidly in the rubber industry. He was formerly manager of the Akron plant of the American Hard Rubber Co., and is now a director in that organization.

What promises to be a substantial benefit to the rubber companies of this city is the freight auditing system now in the process of development by the Chamber of Commerce. An inspection department is also to be established and other steps taken to give the city superior shipping advantages.

THE Aluminum Flake Co., whose successful past year was referred to in the January issue of this paper, are understood to be in a position to do even more business this year. They are stated to have in hand orders and requisitions for 1909 delivery of more than 3,000,000 pounds of aluminum flake, which is coming into such general use in rubber factories in both America and Europe. The company are making arrangements to enlarge their plant to three times the present capacity, or to build anew on another site.

* * *

THE organization of the Mansfield Rubber Co. (Mansfield, Ohio) was completed on January 11. The officers were named in THE INDIA RUBBER WORLD January 1 (page 150). The directorate consists of these officers, with L. Hautzenroeder, H. Homberger and W. H. Bissman. The new factory will be located in the buildings occupied formerly by the National Vehicle Co., in Mansfield. Three carloads of machinery have been installed, and it is expected that operations will be started before March 1. The equipment is to include a 500 HP. Harris-Corliss engine power and four boilers, each 200 HP.

* * *

BYRON W. ROBINSON, a director in the Goodyear Tire and Rubber Co., though more prominent as the president of the Robinson Clay Product Co. and as head of the Akron Chamber of Commerce, died in Lakeside Hospital, Cleveland, on December 30, at the age of 48 years. His death was caused by arterial sclerosis.

* * *

CHRISTOPHER E. WILSON, aged 41, recently a tire salesman with the Denver Rubber Tire Co., and formerly with the India Rubber Co., of Akron, died at his home in Denver, Colorado, on January 5. He had long been suffering from tuberculosis. He was widely known as an expert salesman. He leaves a wife.

News of the American Rubber Trade.

APSLEY RUBBER CO.'S NEW CHICAGO DEPOT.

THE Rubber Manufacturing and Distributing Co., incorporated in 1906, and conducting business at Seattle and Spokane, Washington, have secured commodious quarters at Nos. 200-202 Monroe street, Chicago, and entered upon a general rubber jobbing business. Hereafter Chicago will be headquarters for this corporation, and it will give special attention to the city trade and that of the large territory tributary to Chicago, which will be cultivated with the same enterprise which led to the rapid success of the company's operation on the Pacific coast. The Rubber Manufacturing and Distributing Co. are the Chicago representatives of the Apsley Rubber Co. (Hudson, Massachusetts), and will handle the latter's well known line of "Dry Shod" boots and shoes, and their lines of mackintoshes and rubber clothing. The Hon. L. D. Apsley, the founder and president of the Rubber Manufacturing and Distributing Co., and among the larger stockholders in each company are to be found the names of well known capitalists. The Rubber Manufacturing and Distributing Co. opened their doors in Chicago on January 14, on which date many representatives of the Chicago rubber trade and others sent beautiful floral pieces. The house is in charge of Mr. L. B. Hitchings, treasurer of the corporation, ably assisted by Mr. Campbell.

THE NEW BUFFALO FACTORY.

THE organization of the Preston Fabric Tire Co. (Buffalo, New York), the incorporation of which was reported in THE INDIA RUBBER WORLD of November 1, has been completed by the election of Christian Wesp, president; Morris R. Evans, vice-president; A. S. Collins, treasurer; Philip Wesp, Jr., secretary; and James F. Preston, general manager. They report having all the capital required, and a complete outfit of machinery. The object is the manufacture of automobile tires, tire tubes, cotton belting, and fire hose. Mr. Preston is the inventor of fabric weaving processes applicable to hose and tire making, which he at one time was engaged in manufacturing in Massachusetts.

THE AMERICAN CONTINENTAL CAOUTCHOUC CO.

CONTINENTAL Caoutchouc Co. (Nos. 1788-1790 Broadway, New York) announce that all the Hanover interests in that company have been purchased, and that hereafter "Continental" products will be marketed by American interests only. Continental Caoutchouc Co., organized as the American branch of the Continental Caoutchouc- und Gutta Percha-Compagnie, became a corporation under the laws of New York June 23, 1903, since which time they have undertaken the manufacture of "Continental" tires in the United States.

BORGFELDT'S RUBBER DEPARTMENT.

GEORGE BORGFELDT & Co. (New York) announce: "We are again sole agents for the United States and Canada for the Hanover Vulcanite Co., whose celebrated line of Hanover rubber goods we displayed under our roof for over a quarter of a century previous to the early part of last year." The German company referred to is the Hannoversche Gummi-Kamm Compagnie, Aktiengesellschaft, the business of which was established in 1862. Their lines handled by Messrs. Borgfeldt include rubber combs, pure red rubber toys, rubber sponges, and hard and soft rubber surgical goods. Mr. Julius Lehmann, as before, is manager of the rubber department at Borgfeldt's, which house has added to its list of branches one at Montreal, in the Coristine building, at St. Paul and St. Nicholas streets. They have new quarters in San Francisco at Nos. 770-776 Mission street.

TRADE NEWS NOTES.

THE trustee of the Mechanical Rubber Co.'s first mortgage 6 per cent. bonds of the Mechanical Rubber Co., of 1893, announces that he is prepared to expend \$100,819.39 in the purchase of bonds of said issue, provided the same can be made advantageously, bids to be received up to February 15.

Mr. R. R. Drake, formerly associated with The Diamond Rubber Co., has severed that connection to assume charge of adjustments for the Continental Caoutchouc Co. (New York).

The plant of the Richmond Rubber Tire Co. (Richmond, Virginia), a tire selling and tire repair concern, was sold piecemeal at auction on January 7 by the receiver, Fairfax C. Christian.

The factory which the Converse Rubber Shoe Co. are building at Malden, Massachusetts, is intended to have a daily capacity of 3,500 pairs, and employ 500 hands. The company have opened temporary offices at No. 612 Atlantic avenue, Boston.

Joseph Dixon Crucible Co. (Jersey City, New Jersey) have elected George T. Smith, formerly vice president, to be president of the company, to succeed Edward F. C. Young, whose death was reported in THE INDIA RUBBER WORLD for January.

Continental Caoutchouc Co. (New York) have added to their list another distributing house for "Continental" tires, demountable rims, and accessories in lower California—Seeley, Van Zandt & Crackel, No. 938 South Main street, Los Angeles.

The business conducted formerly in Baltimore by The Linthicum Rubber Co., distributors of Banigan rubber footwear, in southern Pennsylvania, southern New Jersey, Delaware, Maryland, District of Columbia, the Virginias, Kentucky, and the South, since the death of President Charles W. Linthicum [see THE INDIA RUBBER WORLD, March 1, 1908—page 192] has taken the name Banigan Rubber Co. S. H. Jones is president and Z. T. Pindell treasurer.

In celebrating the completion of a four story addition to their plant, the officers and employes of the Firestone Tire and Rubber Co. (Akron, Ohio) joined in a supper and dance on the Tuesday evening following Christmas. Nearly a thousand guests were entertained on the fourth floor of the building. The Firestone Relief Association was launched on this occasion, with an initial membership of 400.

The accounts of Lucius C. Ryce as receiver of the Seward Rubber Co. (Berlin, Connecticut), making a final settlement with creditors, have been approved at the superior court at Hartford.

In the matter of the protest of Adolph Hirsch & Co. (New York) against the duty imposed on an importation of maniocoba (Ceará or Bahia rubber) seeds, the action of the collector was supported by the United States board of general appraisers. The seeds were classified under paragraph 254 of the Tariff act, which fixes the rate on seeds not specially provided for at 30 per cent. *ad valorem*.

THE INDIA RUBBER WORLD has pleasure in acknowledging the New Year's greeting of Joseph Dixon Crucible Co. (Jersey City, New Jersey), accompanied by the annual contribution of specimens of their products, especially adapted for use at the editorial desk.

Mr. Thomas Lang, of Malden, Massachusetts, who celebrated his eightieth birthday during the Christmas holidays, was associated with the late Hon. Elisha D. Converse for 37 years; in the capacity of bookkeeper and cashier. He was for years clerk of the Boston Rubber Shoe Co. and secretary of the board of directors, of which body he was a member. He retired from active work and severed his connection with the company in 1888.

UNITED STATES RUBBER CO.'S SHARES.

TRANSACTIONS on the New York Stock Exchange for five weeks, ending January 23:

COMMON STOCK.

Week December 20	Sales 3,045 shares	High 35 $\frac{1}{4}$	Low 31 $\frac{1}{2}$
Week January 2	Sales 4,000 shares	High 30	Low 34
Week January 9	Sales 1,500 shares	High 34 $\frac{1}{2}$	Low 33 $\frac{1}{2}$
Week January 16	Sales 2,100 shares	High 33 $\frac{1}{2}$	Low 32
Week January 23	Sales 4,540 shares	High 34 $\frac{1}{2}$	Low 31

For the year—High, 34 $\frac{1}{2}$, Jan. 2; Low, Jan. 22

FIRST PREFERRED STOCK.

Week December 26	Sales 780 shares	High 106	Low 105
Week January 2	Sales 1,300 shares	High 106 $\frac{7}{8}$	Low 105
Week January 9	Sales 2,055 shares	High 106 $\frac{7}{8}$	Low 105
Week January 16	Sales 3,450 shares	High 107	Low 104 $\frac{1}{2}$
Week January 23	Sales 2,750 shares	High 104 $\frac{3}{4}$	Low 100 $\frac{1}{2}$

For the year—High, 107, Jan. 1; Low, 100 $\frac{1}{2}$, Jan. 23.

SECOND PREFERRED STOCK.

Week December 26	Sales shares	High ..	Low ..
Week January 2	Sales 800 shares	High 73	Low 73
Week January 9	Sales 700 shares	High 73 $\frac{1}{4}$	Low 73 $\frac{1}{4}$
Week January 16	Sales 600 shares	High 72	Low 71
Week January 23	Sales 300 shares	High 72	Low 69

For the year—High, 73 $\frac{1}{4}$, Jan. 5; Low, 69, Jan. 22.

COMMON STOCK, \$25,000,000.

Last Dividend, April 30, 1900—1%.

	1903.	1904.	1905.	1906.	1907.	1908.
Shares sold	80,899	285,810	723,005	607,800	175,277	191,200
Highest price	10 $\frac{1}{2}$	14 $\frac{1}{2}$	58 $\frac{1}{2}$	59 $\frac{1}{2}$	52 $\frac{1}{2}$	37 $\frac{1}{2}$
Lowest price	7	10 $\frac{1}{2}$	33 $\frac{1}{4}$	38	13 $\frac{1}{2}$	17 $\frac{1}{2}$

Highest, 1908, August 7; Lowest, February 26; Closing, 34.

FIRST PREFERRED STOCK, \$36,263,000.

Last Dividend, January 30, 1909—2%.

	1903.	1904.	1905.	1906.	1907.	1908.
Shares sold	62,343	182,443	200,497	123,760	120,108	94,400
Highest price	58	101	118 $\frac{1}{2}$	115	109 $\frac{7}{8}$	108
Lowest price	39 $\frac{1}{4}$	41	98 $\frac{1}{8}$	104 $\frac{1}{4}$	61 $\frac{1}{4}$	76

Highest, 1908, December 2; Lowest, February 19; Closing, 106 $\frac{1}{2}$.

SECOND PREFERRED STOCK, \$9,965,000.

Last Dividend, January 30, 1909—1 $\frac{1}{2}$ %.

	1905.	1906.	1907.	1908.
Shares sold	21,550	59,845	31,203	21,131
Highest price	83 $\frac{3}{4}$	87 $\frac{1}{2}$	78 $\frac{1}{8}$	75 $\frac{1}{2}$
Lowest price	75	75	39	42

Highest, 1908, November 27; Lowest, February 21; Closing, 73.

TRADE NEWS NOTES.

THE Eureka Fire Hose Manufacturing Co. (New York) have been awarded contracts for 5,000 feet of 2 $\frac{1}{2}$ -inch and 1,000 feet 3 $\frac{1}{2}$ -inch "Eureka" fire hose for Buffalo, New York, and 1950 feet 2 $\frac{1}{2}$ -inch "Eureka" hose for Jersey City, New Jersey—all 4-ply, manufactured for the new high-pressure pipe line service.

A suit brought by Lewis D. Parker, who for several years prior to June 7, 1904, was president and general manager of the Hartford Rubber Works Co., to recover under an alleged contract with the company to run until a considerably later date, is stated to have been settled amicably out of court. Mr. Parker was connected with the Hartford company, all told, some 13 years, becoming widely acquainted in the tire trade, and subsequently became interested in the manufacture of hardware and tools.

Mr. Joseph S. Capen, who is treasurer of the new Converse Rubber Shoe Co. [see THE INDIA RUBBER WORLD, January 1, 1909, page 150], was connected for 15 years with L. Candee & Co., and latterly with The Beacon Falls Rubber Shoe Co.

The Flexible Rubber Goods Co. (Winsted, Connecticut), the capital stock of which was increased recently from \$10,000 to \$35,000, have leased larger premises, with the privilege of buying. They make rubber brushes and other toilet articles and a "sucker" sole for athletic shoes.

A point indicative of the increasing consumption of rubber in balloons is the fact that lists of scraps of rubber are beginning to include waste balloon fabric.

THE NEWEST "GOODRICH GIRL."

It is hard to say it better than The B. F. Goodrich Co. say it, and harder to do it better. "Adele, the Girl from Goodrich," is this year's beauty. She is "A rare, wistful, restful companion—just the sort for a man to take into his confidence. Heartease is her flower; sweet complacency her dowry; Goodrich Goods her prayer."

CONSUMERS' RUBBER CO.

THE Consumers' Rubber Co., Inc. (Bristol, Rhode Island), are understood to be turning out weekly 1,000,000 feet of rubber insulated wire, requiring the operation of three connecting mills. The company have about completed the installation of a rubber shoe manufacturing equipment and as the president, Mr. Terrence McCarthy, has had an extensive experience in the trade, a new brand of McCarthy footwear in the near future need not cause surprise in the trade.

NEW INCORPORATIONS.

THE Consolidated Rubber Co., of New Haven, January 5, 1909, under the laws of Connecticut; capital authorized, \$250,000; beginning business with \$5,000. Incorporators: William H. Hull, John Semon and Homer H. Shepard, all of New Haven. THE INDIA RUBBER WORLD is advised that no details can yet be given out for publication, but the articles of incorporation indicate the object of the company to be to deal in rubber and rubber products and the stocks or property of similar companies.

The Bradley Tire Protector Co., November 21, 1908, under the laws of Texas; capital, \$20,000; to manufacture steel tire protectors. Incorporators: H. M. Bradley and Carrie T. Douglass, Fort Worth, and E. M. Bradley, Houston, Texas.

The Bridgeport Webbing Co., January 12, 1909, under the laws of Connecticut; capital \$5,000. Incorporators: William Boyd Spencer, Nelson H. Downs and A. H. Raymond, all of Bridgeport, Connecticut. The president is Mr. Spencer, who also is president and treasurer of the Bridgeport Elastic Fabric Co., and the treasurer is Mr. Downs. The new company will occupy quarters with the Bridgeport Elastic Fabric Co., and for the present manufacture a line of goods similar to theirs, though intending later to develop a business along other lines. The Bridgeport Elastic Fabric Co., incorporated in June, 1902, with \$8,000 capital, have increased this to \$50,000 without the introduction of any outside interest. Mr. Spencer has been president since 1907.

TRADE NEWS NOTES.

THE Maumee Rubber Co. (Nos. 224-226 Superior street, Toledo, Ohio), the incorporation of which was reported in THE INDIA RUBBER WORLD November 1, 1908 (page 77), is a new branch store of the United States Rubber Co., which will have the exclusive agency in that territory for the "Wales-Goodyear" and "Connecticut" rubber footwear brands. The president and treasurer is Albert D. Wentz, who after having been a handler of United States Rubber Co. brands for some years, became for awhile selling agent in Chicago of The Beacon Falls Rubber Shoe Co.

The cost of the highest priced diving apparatus offered by a leading firm in the trade is \$812.50, of which \$500 is required for the pumping and air supplying feature. The principal rubber items are two rubber diving dresses, at \$40 each; hose, \$57; and several minor items, \$12.75.

Kansas City Rubber and Belting Co. (Kansas City, Mo.) are distributing to their customers some handsome advertising cards, to which attention is certain to be attracted by the flower girl, which is a prominent feature.

The Birmingham Iron Foundry (Derby, Connecticut) remembered their friends at New Year's by sending out handsome memorandum books which doubtless will be treasured as souvenirs by all who received them.

BOSTON BELTING CO.—ANNUAL.

At the annual meeting of shareholders of the Boston Belting Co., held November 28, 1908, the board of directors [see THE INDIA RUBBER WORLD, January 1, 1908—page 126] was re-elected without change. The officers also were re-elected: James Bennett Forsyth, president and general manager; J. H. D. Smith, treasurer and clerk. The balance sheet, as of September 30, 1908, stood as follows:

ASSETS.	
Real estate—Land	\$113,235.10
Real estate—Buildings	79,734.67
Machinery	240,736.60
Tools and fixtures	89,184.92
Furniture and fixtures	7,141.81
Cash	79,957.07
Investment account	621,489.52
Notes receivable	3,111.48
Bonds receivable	79,645.48
Accounts receivable	37,507.79
Merchandise	964,750.25
Tappan stocks	50.00
Trade marks	100.00
Colorado real estate	500.00
Portsmouth Forge, Bond and Stock account.....	250.00
Total	\$2,316,494.69
LIABILITIES.	
Capital stock	\$1,000,000.00
Reserve fund	800,000.00
Profit and loss	376,494.69
Notes payable	140,000.00
Total	\$2,316,494.69

EMPLOYEES' CLUB IN A RUBBER FACTORY.

A ROOM in the factory of the Boston Woven Hose and Rubber Co., at Cambridge, Massachusetts, has been assigned for a club room for the carrying out of plans for the benefit of the employees, resulting from a conference between committees of foremen of the company and of the Cambridge Young Men's Christian Association. The room, 60 feet square, has been appropriately furnished and provided with reading matter under an arrangement with the public library. The assembly room is frequented by the employees at the daily noon hour, while on certain evenings of the week lectures are given. Besides, provision is made for games and music, and in two adjacent rooms lessons in English are given at certain hours to the non-English-speaking employees. The new institution has met with the approval of both employer and employees, and one advantage is that it lacks the feature of being promoted by the company for the men, the whole work being under the management of a committee chosen by the latter from their own ranks.

THE SNOW MAN BACKWARD THIS YEAR.

THE weather in recent years has proved almost as uncertain as the prices of crude rubber as a subject for discussion in a trade paper. The reference to the tardy approach of "rubber" weather in the last INDIA RUBBER WORLD was in type before the snowfall of several inches, just before Christmas, which included New York city within its scope. That made real "rubber weather" for a day, but its effect upon the trade was soon lost. The present article is not a record of weather in general, not even of snow, but it may be mentioned here that the first United States government snow map for the new year—dated January 5—shows about the scantiest supply of snow that has ever appeared in a publication of this kind at such a date. There was snow reported, other than "traces," in only 17 of the 48 states and territories in the Union, and in most cases only in very limited quantities. Eleven inches of snow at Cornish, Maine, 10 inches at Koepenick, Wisconsin, or 21 at Mancelona, Michigan, may sound well, but these are not centers of the trade in rubber footwear. A snow map which leaves out New York, Chicago, Philadelphia, Boston—and practically every other town of importance in the country—cannot be very pleasing to

anyone whose profits in business depend upon the sale of rubber boots and shoes.

* * *

Later.—There has been some real snow already, and summer is still to come.

THE TRADE IN HOSE RACKS.

W. D. ALLEN MANUFACTURING Co. (Chicago), manufacturers of the Bowes hose rack, report contracts during the month of January for a number of important buildings, among them the office buildings of the Senate and House of Representatives in Washington, and the Fifth Avenue building, which occupies the site of the old Fifth Avenue Hotel, in New York City. They report that the Bowes rack is popular on the Pacific coast, and good contracts from that territory are frequent.

NEW RUBBER FACTORY IN OHIO.

A NEW company under the style The L. & M. Rubber Co. have begun the manufacture of druggists' sundries and mechanical goods at Canton, Ohio, succeeding to the business of The L. & M. Rubber Works, lately of Carrollton, Ohio. The manager is Mr. John J. Lee, who was with the former company.

TRADE NEWS NOTES.

THE Boston house of the Beacon Falls Rubber Shoe Co. is now under the management of Daniel E. Gray, who has been connected with the company for several years.

The National India Rubber Co. (Bristol, Rhode Island) have recently renovated their entire plant, having, among other improvements, put in an entire new hose equipment and a new electric light and power plant. The company have also added a lead press for the manufacture of lead encased cables. The wire plant, which has been working nights since early fall, has been enlarged very greatly in the last three years.

Mead Fountain Pen Co. (No. 107 John street, New York) has been organized to manufacture fountain pens patented by Jacob J. Mead, who is president of the company. Albert J. Deubel is secretary and treasurer, and E. A. Tredwell assistant secretary. Mr. Mead has been engaged in this line for a number of years, being a practical rubber man.

The Massachusetts Chemical Co. announce the removal of their New York office from No. 237 Broadway to the Hudson Terminal building, No. 30 Church street, which will be the headquarters hereafter of Mr. A. G. Cozzens, sales agent. The offices are on the third floor, just at the bridge connecting the two halves of the building.

The Converse Rubber Shoe Co., recently organized, have placed a rush contract with the Aberthaw Construction Co. (of Boston) for the building of their fireproof building at Malden, Massachusetts. The new building will be erected next the Boston and Maine Western division tracks, near Edgeworth station. The floors and interior columns and the stairs will be of reinforced concrete. The exterior columns and roof trusses will be of steel, and the walls of brick. The building will be fireproof and generally up to date.

Mr. E. W. Harrall, president of the Fairfield Rubber Co. (Fairfield, Connecticut), is interested in the fine new hotel, the "Stratfield," that has just been opened in Bridgeport, Connecticut. He writes that it is the largest and best hotel between New York and Boston, and he certainly knows big and good hotels. May it be as prosperous as is the Fairfield company.

Alfred C. Adler, of Somerville, Massachusetts, appeared for trial in the Waltham court on January 1, on a charge of obtaining money under false pretenses, and was acquitted. The complainant had bought through Adler shares in La Victoria and El Triunfo rubber plantations, in Nicaragua. The court sympathized with any investor who had failed to profit, but could not find anything in the evidence to indicate false pretenses on the part of the accused, who was promptly released.

PERSONAL MENTION.

In the sketch of Dr. Joseph Torrey in THE INDIA RUBBER WORLD of January 1 (page 132), a slight error occurred. Instead of what was printed there it should have been stated that while at Harvard he took an "assistantship," which was followed by an "instructorship," which continued until he left the university, in 1900.

Mr. Lester Leland, second vice-president of the United States Rubber Co., is spending the winter abroad, having sailed from his home in Boston just before New Year's.

Mr. Francis L. Hine, who for some years had been vice-president of the First National Bank of New York, was elected president at the annual meeting on January 12, to succeed Mr. George F. Baker, resigned. Mr. Hine is serving for the sixth year as a director in the United States Rubber Co., and he is connected with many other important corporations. He was president for some years of the Nashawannuck Manufacturing Co., makers of narrow textile fabrics, in which men of prominence in the rubber trade have been interested from the time that the late Christopher Meyer filled the office of president. The Nashawannuck company was incorporated by Chapter 132 of the laws of Massachusetts for 1850.

Mr. A. M. Stickney, president of the Wellman Sole Cutting Machine Co. (Medford, Massachusetts), is enjoying a winter vacation in the south of France.

At the eleventh annual dinner of the Victorian Club, the leading British club of New England, Mr. Elston E. Wadbrook, of Poel & Arnold (Boston), whose nomination to the presidency of the organization was noted in a previous issue of this paper, was unanimously elected president.

The town of Marion, Massachusetts, is to have an industrial educational institution, with which an employment bureau may be connected, as the result of a movement initiated by Mrs. Harry E. Converse, wife of the president of the Boston Rubber Shoe Co., whose summer home is in Marion.

Mr. Isaac Crocker, of Providence, Rhode Island, the head of an important chain of retail rubber stores in New England, accompanied by a few friends, is mentioned by the Laconia (New Hampshire) *Democrat* as having made lately an exceptional catch of trout and pickerel from Lake Winnepesaukee, near Glendale, New Hampshire, where Mr. Crocker owns several cottages. Part of the catch figured in a dinner given by Mr. Crocker at Wolfe's Hotel in Providence, on January 5.

Mr. Kenzo Okada, general manager of the Fujikura Insulated Wire and Cable Co., Tokio, Japan, who underwent quite a serious operation at the Tokio Hospital, is fully recovered and again at the helm in the Tokio factory. Mr. Okada will be remembered by many friends whom he made while sojourning in the United States for some years.

A round of presentations at the factory of the National India Rubber Co. (Bristol, Rhode Island) on the day preceding Christmas, was an occasion of much enjoyment to all concerned. To the general agent, Mr. Le Baron C. Colt, was presented a beautiful sterling silver pitcher, on behalf of the management and salesmen. Mr. Walter De F. Brown, the secretary and treasurer, received a handsome cane from the office force. Nearly all the officials and foremen were remembered, and some of the older employees, who received presents from the younger workers in their respective departments.

Mr. John J. Voorhees, president of the Voorhees Rubber Manufacturing Co. (Jersey City, New Jersey), lectured on the evening of January 19, before the Men's Club of the Bergen Reformed Church, on the subject of "Rubber," giving an interesting account of how this material is obtained, in the first place, and tracing the various stages through which it passes until developed into factory products of almost infinite variety.

PERSONAL MENTION.

THE most exciting general news of the past month related to the accident at sea near the New England coast to the steamer *Republic*, the passengers on which, fortunately, were rescued before the steamer went down, through the aid from other ships secured by the medium of wireless telegraphy. One of the passengers was Mrs. Alice Morse Earle, an authoress of distinction, who fell into the sea while being transferred from the sinking *Republic*, but was rescued. The lady is the widow of Henry Earle, who was the founder of the rubber brokerage firm of Earle Brothers, of New York.

After the tiresome work of taking inventory, at the end of the year, the officers of the Fairfield Rubber Co. (Fairfield, Connecticut), together with the whole clerical force, dined at the Stratfield Hotel, Bridgeport, going later to the theatre. The pleasure of the reunion was contributed to by speeches made by Major W. W. Harral, manager of the company; Frank Hotchkiss, superintendent, and Secretary Goodell. Mr. C. Harral, son of the president, pleased the company with several songs.

Major J. Orton Kerley, formerly United States consul at Pará and now connected with the International Bureau of the American Republics, and whose name is familiar to INDIA RUBBER WORLD readers, was invited recently to deliver an address on Brazil before the boys of Peddie Institution, located near Princeton, New Jersey. The International Bureau, by the way, has devoted itself unceasingly to bring about closer relations between educational institutions in the various republics contributing to its support.

Mr. William J. Slater, lately advertising manager, Firestone Tire and Rubber Co. (Akron, Ohio), has severed his connection with that company to take up the general management of the Kalamazoo (Michigan), *Telegraph*, a newspaper in which he has recently become financially interested.

CALENDARS FOR 1909.

HAZARD Manufacturing Co. (Wilkes-Barre, Pennsylvania) send out a calendar designed expressly for them, composed of a separate sheet for each month, 17 x 22 inches, and each illustrated differently, to indicate the character of the company's production of insulated wires and wire rope.

The Adamson Machine Co. (Akron, Ohio) send out a calendar ornamented with a reproduction in colors of Carl Fedeler's painting, "After the Storm."

The Indiana Rubber and Insulated Wire Co. (Jonesboro, Ind.) send out a calendar mounted on a large card giving a good view of the works of the company.

Apsley Rubber Co. (Hudson, Massachusetts) send out a calendar, the illustration on which is a picture, full of life, of a Saturday night scene in a New England country store.

James Boyd & Brother, Inc. (Philadelphia), sent out a calendar arranged with one leaf for each week in the year, in the same attractive and convenient style that they have used for this purpose for many years past.

The Trenton Rubber Manufacturing Co. (Trenton, New Jersey) have sent us the smallest calendar for the new year received to date, but one of the most attractive, it being embellished with a reproduction in miniature of a famous painting by a French artist.

Joseph Fynney & Co., of Liverpool, have again rendered the trade a service by bringing out at the usual date their "Diary for 1909, With 'Loss in Washing' and Parity Tables and Statistics." The whole is compact, well arranged, and evidently accurate, and is sure to be appreciated by every buyer of raw rubber fortunate enough to secure a copy.

Elmer E. Bast, Chicago manager of Hamilton Rubber Manufacturing Co., and The American Belting Co., sends out a tasteful new calendar ornamented by a photograph of a pretty girl—"Suzanne."

INTEREST AND DIVIDEND PAYMENTS.

INTEREST on the 6 per cent. debentures of the New York Belting and Packing Co., Limited, and on the first mortgage 6 per cent. bonds of the Mechanical Rubber Co., were payable on and after January 1, at the offices of the Knickerbocker Trust Co. in New York.

Interest on the 6 per cent. debentures of Okonite Co., Limited, was payable on and after January 1, at the offices of Winslow, Lanier & Co., in New York.

It is reported in financial circles that the annual interest payment due on April 1, on the 4 per cent. income bonds of the Consolidated Rubber Tire Co. will be $3\frac{1}{2}$ per cent. The bonds date from April 1, 1901, and the amount outstanding is \$2,850,500. Last year's interest payment was 2 per cent.

The board of directors of the United States Rubber Co. on January 7 declared from its net profits a quarterly dividend of 2 per cent. on the first preferred shares, and a quarterly dividend of $1\frac{1}{2}$ per cent. on the second preferred shares, both payable January 30 to shareholders of record on January 15.

TRADE NEWS NOTES.

THE Hood Rubber Co. recently offered \$100,000 of their preferred stock at \$120, bringing the total issue of preferred up to \$700,000, of which \$600,000 was sold during 1908. Of this amount 4,000 shares were sold at par, 1,000 at \$110, and 1,000 at \$115. The company have been paying quarterly dividends of $1\frac{3}{4}$ per cent. on the preferred stock.

Of the United States Rubber Co.'s \$20,000,000 loan mentioned in the last INDIA RUBBER WORLD (page 152), \$15,000,000 was offered by New York banking houses on December 30, when the amount was largely oversubscribed before noon. The offering price was $101\frac{1}{2}$, at which the yield is 5.80 per cent., but the bonds sold on the "curb" market during the day at $1\frac{1}{4}$ above the subscription price.

The Firestone Mutual Relief Association was organized among the employes of the Firestone Tire and Rubber Co. on January 1. A constitution and by-laws have been adopted and 400 charter members are expected. The plan of the association is to promote unity and sociability and to provide sick and death benefits for members of the office and factory force.

Theodore Hofeller & Co. (Buffalo, New York) issue a handsome calendar. The illustrative feature is a series of views of their business premises at different dates from their foundation.

The name of the European representatives of the U. S. Rubber Reclaiming Works (New York) has been changed to Arthur Meyer & Co., Limited.

The largest rubber tires yet seen in use in New York appeared recently on a gasoline truck made by the Hewitt Rubber Co. (New York), weighing about 12,000 pounds, and loaded on some days with 20,000 pounds of coal, or about 32,000 pounds total weight to be considered by the tire company supplying the rubber equipment. The tires used were the "Kelly-Springfield Sectional," made for commercial vehicles. Tires for such large vehicles are made in the "dual" type, and in this case were 44 x 7 inches (dual) for the rear wheels, and 36 x 5 inches (dual) for the front wheels. In other words, the rear wheel tires have 14-inch and the front wheel tires 10-inch bases.

And now comes a blue inner tube. It is called the "Sterling" and is made by the Rutherford Rubber Co. (Rutherford, New Jersey). Really there is no reason why, if some such compound as used in the famous "Blue Blood" packing, or perhaps a bit richer, a blue tube might not be a winner.

Continental Caoutchouc Co. (New York) have added to their list of distributors the Columbus Buggy Co., Nos. 810-814 Walnut street, Kansas City, Missouri, to cover the trade in "Continental" goods in western Missouri and Oklahoma.

Continental Caoutchouc Co. (New York) have inaugurated a department of tests for their tires, in charge of Mr. Thomas Lynch, the well known automobile driver and racing man.

SELLING RUBBER BY "INSCRIPTION."

WHILE the sale of crude rubber in Europe by the method which is most widely known through its use at Antwerp—this being the largest market to which the inscription method applies—has been so long established, it appears not yet to be thoroughly satisfactory. THE INDIA RUBBER WORLD, without meaning to go on record for or against the system, has given space from time to time to various articles on this subject, and prints below a communication on the subject from an important house in the Amsterdam trade. Reference may be made here to articles previously printed on the subject—for example, the following: In our issue of November 10, 1897 (page 53) from the management of the Society of German Rubber Manufacturers, protesting against the Antwerp system, a defense of the system by an important Antwerp firm, December 10, 1897 (page 86), and a further defense by the manager of the rubber department of an Antwerp firm, February 19, 1898 (page 133).

TO THE EDITOR OF THE INDIA RUBBER WORLD: Rubber has been sold by inscription at Rotterdam ever since it appeared on this market. Indeed, the sale by inscription is the old Dutch selling system, which also was adopted by Antwerp when rubber began to come to that market.

The system has its merits and its faults. On an average it is considered to bring the best price for the importer, but in many cases we think that the highest bidder, who has bought the lot, would have been overbid in an open auction. This, of course, refers to strong markets.

In dropping markets, on the contrary, many lots would not nearly fetch the price paid for them in inscriptions, so that it is a fact that the results of inscriptions very often do very badly represent the real market tendency. One buyer may pay high prices for certain lots for reasons of his own, while the others are miles below him, but of course he does not know it. Something like this must have been the case in the Antwerp December inscription which, according to the unanimous judgment of the trade in Europe, was enormously overpaid.

A great fault of inscriptions, of course, is that you never know whether you will get the rubber you should like to buy or not, which is very awkward, especially in the case of manufacturers. The consequence of this is that the competition in inscription sales is more and more limited to dealers only.

On the other hand, I can understand that importers do not like public auctions, when I see the results of the weekly auctions in Liverpool, for example, where the greater part is always withdrawn in the auction and the business is done privately afterwards

STONEHAM.

Rotterdam, January 7, 1909.

AN INQUIRY REGARDING ELATERITE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have been informed that if elaterite could be dissolved by a cold process, it might be of some value in the rubber field. I have, therefore, employed a party to make some tests for dissolving it, and he finds it readily dissolves by a certain process. I would like if through the readers of THE INDIA RUBBER WORLD I could ascertain the best field for its application.

ERIE.

Buffalo, New York, December 19, 1908.

A BILL introduced recently into the Brazilian congress exempts from the payment of import duties any material or machinery for rubber factories brought into that republic during three years. It also authorizes the government to grant a premium of 50,000 milreis [= about \$18,500, gold, at current exchange] to any person inventing an economical process for extracting, coagulating or curing rubber. It is stated that a Brazilian company is negotiating for the purchase of machinery for a rubber goods factory to be established at Rio de Janeiro.

Some Crude Rubber Sources.

BRAZIL'S SHARE IN RUBBER PRODUCTION.

SOME statistics of rubber production which appear in the able Parisian journal, *Le Brésil*, are of interest, though we do not know how far they approach accuracy, in the absence of any knowledge as to the sources of information of our contemporary. What *Le Brésil* really does, in this case, is to figure out the share of Brazil in the world's production of rubber for nine calendar years, ranging, according to its computation from 49.14 per cent. in 1899 to 50.70 per cent. in 1907. The figures are given in detail in the table which follows.

The figures in the middle column of the table, however, are not derived from *Le Brésil*. Accepting as credible the official record of rubber production in Brazil supplied by the statistical department at Rio de Janeiro, for the years 1903 to 1907, inclusive, we have applied *Le Brésil's* percentages, with the result that the world's total rubber output for 1903 works out at 59,500,938 kilograms [=130,902,064 pounds], and so on for the succeeding years. Expressed in pounds the production for 1907 would be 158,337,500.

YEAR.	Total Kilos.	Brazil's Share.
1899		49.14%
1900		48.14%
1901		50.98%
1902		54.88%
1903	59,500,938	53.28%
1904	61,011,576	51.75%
1905	68,325,500	51.80%
1906	68,549,488	51.00%
1907	71,971,591	50.70%

These figures are presented for what they may be worth, in the absence of any known to be more authentic.

YIELD OF RUBBER TREES IN BRAZIL.

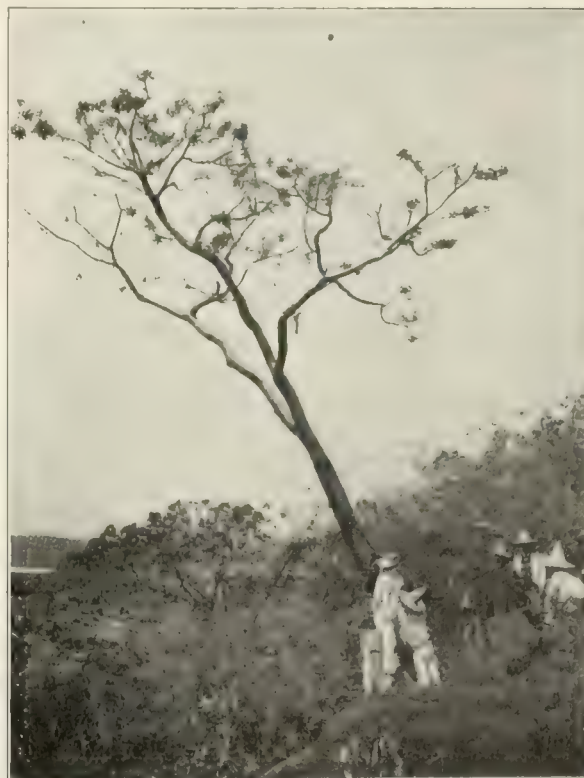
In an article on rubber in northern Brazil contributed to the *Pall Mall Gazette* (London), the writer speaks of experiences in the Acre territory, and mentions particularly two estates producing each about 200 tons of rubber yearly. He found that on the lowlands, where the rubber season is shortened by the annual rise in the rivers, the *seringueiros* average from 300 to 400 kilograms [=660 to 880 pounds] per year, while on higher lands, with a working season of about nine months, they bring in from 600 to 700 kilograms [=1,320 to 1,540 pounds] per year. Supposing that these workers average 500 kilos yearly, 400 men would be needed to produce 200 tons of rubber. This writer intimates that at present all the *seringueiro* gets for his work is food and clothes, and that if there were better business organization as a general thing it would be possible to equip and pay rubber gatherers on a basis which would permit a profit in the rubber business with the price of rubber delivered at the steamer landings at a shilling per kilogram [=about 11 cents per pound], or even less. He writes that many natives from Barbados are to be found gathering rubber in the Acre, and that they usually bring in a greater amount of rubber than the Brazilians.

"PALO AMARILLO" AS A RUBBER TREE.

INTEREST has been revived of late in the possibility of obtaining rubber in commercial quantities from the Mexican tree known locally as *el palo amarillo* (the yellow tree). It was at one time designated botanically as *Euphorbia elastica* and latterly as *Euphorbia fulva*. This tree and its product was the subject of a report in THE INDIA RUBBER WORLD February 1, 1906 (page 148), the conclusion of which was that it appeared to be of little value in yielding rubber. The tree has continued to be the subject of study, however, and it has now been brought to notice again rather prominently through the efforts of a pro-

moter, hailing from New York, under the name William H. Ellis. He represents himself in Mexico as having formed a \$20,000,000 corporation with the name Consolidated Palo Amarillo Co., and in which some wealthy New Yorkers are reputed to be interested. He has been active in this interest in the region of Torreon, and United States consuls have been writing reports on the possible new source of rubber. It appears certain that Ellis has secured reports on the tree and its latex from Dr. H. H. Rusby, dean of the College of Pharmacy, of Columbia University, and Dr. Fernando Altamirano, director of the National Medical Institute of Mexico, and the names of those two eminent scientists are being used to aid in the promotion of the Ellis company. The commercial history of this tree and its product is very brief.

Ellis was last mentioned in THE INDIA RUBBER WORLD something over two years ago as being active in Mexico trying to



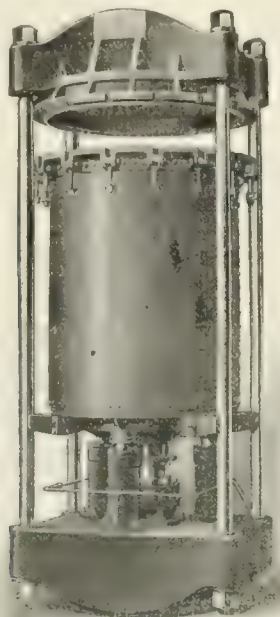
"PALO AMARILLO" (YELLOW TREE)

form a guayule rubber company. He had then lately returned from Abyssinia, where he had tried to promote trade relations between that country and the United States, in consequence of which he was honored by the Emperor Menelik with the title Duke of Hawash. Ellis claims concessions in Abyssinia for lands said to contain rubber forests.

THE INDIA RUBBER WORLD, it must be confessed, views "palo amarillo" gum with a certain prejudice—perhaps an unfair one. At first sight it seems too sticky and resinous to be of much value. At the same time, that was much the way that guayule rubber looked a few years ago. It is possible that if the latex is abundant, and can be gathered cheaply, if it contains 10 per cent. of rubber or more that can be extracted by some simple process, and if it is of good quality, the extraction may be worth while.

NEW AUTOMOBILE TIRE PRESS.

A NEW type of vulcanizing press which has come into prominence in connection with the development of the automobile tire industry is known as the "heater" press. The principle of this press is to combine the hydraulic pressure obtained in the ordinary type of hydraulic press with the advantage of curing in open steam, as in the older forms of shell or steam vulcanizers. Manufacturers of automobile tires have



found this type of press of distinct advantage, and there appears to be a growing demand for it. The accompanying cut shows a type of this press which has met with popular favor, and a large number of this type have been constructed already for the leading tire manufacturers in the United States. [Farrel Foundry and Machine Co., Ansonia, Connecticut.]

CHANGES AT PARA.

A CHANGE has occurred in the firm of Schrader, Gruner & Co., involving the retirement under their articles of association of Wilhelm Richard Schradre Schrader and Christian Ludwig Nommensen as from January 1. The business will be continued under the style Gruner & Co., consisting of K. F. H. G. Gruner, Emil Albert Zarges, Oscar F. A. Dusendschön, general partners, and Heilbut, Symons & Co., of London and Liverpool, as special

partners. The capital of the firm is 2,300,000 milreis, of which 600,000 milreis is contributed by the special partners. The same details relate to the branch firm at Manáos, which is changed in style from Dusendschön, Nommensen & Co., to Dusendschön, Zarges & Co.

Heilbut, Symons & Co., of London and Liverpool, announce that their Mr. L. A. Grossman, so long connected with the firm and being desirous of retiring from business, ceased to be a partner as from December 31, 1908. The business will be continued under the same style by the remaining partners, Samuel Heilbut and F. S. Pusinelli, in conjunction with Hermann Reimers, formerly of the affiliated New York house, who was admitted as a partner as from January 1.

MR. MINER AND THE CANADIAN RUBBER TRADE.

MR. S. H. C. MINER advises THE INDIA RUBBER WORLD that during the recent stock movement in the shares of the Canadian Consolidated Rubber Co., Limited, he sold his entire holdings, with the exception of 50 shares of preferred and 50 shares of common, in the open market. He adds that he is now a "free lance," with mills for rubber manufacture in process of erection well advanced, and will be producing goods this year.

Reports have been current for some months past of important orders placed by Mr. Miner for rubber manufacturing machinery to be installed in new buildings which have been going up at Granby, Quebec, and these reports are now confirmed by Mr. Miner's statement. Mr. Miner was long a prominent figure in the rubber industry in Canada, and upon the organization of the Canadian Consolidated Rubber Co., Limited, in 1906, he was the first to be elected president.

Montreal newspapers of January 25 reported a very considerable rise in quotations of the common stock of the Consolidated company, due to information which has become public regarding the large earnings of the past year. The Montreal *Star* of the date named, mentioning the success of the company, says:

"The consolidation had not been launched very long before it attracted the attention of several United States capitalists, who took over a portion of the holdings of some of the directors, at a substantial profit to the latter. The control now rests with a syndicate, of which a few of the directors are members, and one of these days it will probably be announced that this syndicate will turn over the control to the United States Rubber Co."

Mr. HENRY C. PEARSON, the Editor of THE INDIA RUBBER WORLD, will lecture on "India-rubber" before the Boston School of Economics, on February 10; on "The Briton in India-rubber, as Planter and Manufacturer," at the next dinner of the Victorian Club, at the Hotel Westminster, Boston, on February 11; and on "Glimpses of Tropical Lands" before the Current Topic Club, at Hartford, on February 16.



FACTORY OF KAUFMAN RUBBER CO., BERLIN, ONTARIO.

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for carload lots, per pound—show a slight decline as compared with last month:

Old rubber boots and shoes—foreign ..	8 3/8 @ 8 7/2
Old rubber boots and shoes—domestic..	8 3/4 @ 9
Pneumatic bicycle tires.....	6 @ 6 1/2
Automobile tires	6 @ 6 1/2
Solid rubber wagon and carriage tires.	7 @ 8
White trimmed rubber	10 1/2 @ 11
Heavy black rubber.....	5 1/4 @ 5 1/2
Air brake hose.....	3 3/4 @ 4
Garden hose	2 @ 2 1/4
Fire and large hose	2 3/4 @ 3
Matting	1 1/2 @ 1 5/8

Review of the Crude Rubber Market.

THE condition of the crude rubber market, considered broadly, is that production of rubber is on a scale normal as compared with recent years, and that stocks have declined to a point which indicate that the surplus accumulated during the inactivity of rubber factories during part of the last year has practically disappeared. As will be indicated by reports on the situation on other pages of this issue, the production of other grades than Pará shows a declining tendency, and any deficit from this source cannot be looked for to be made up other than from plantation rubber.

In America the industry is active, with the exception of the rubber footwear branch, in which a number of important factories, it is announced, will be closed during the current month. How far this reduced consumption of rubber will be offset by the activity in mechanical lines can only be conjectured. It is known, however, that the tire trade, particularly, is very active, and all indications are that a good business is being done in all lines except footwear, which branch is feeling the effect of the recent unseasonable weather—considered from the standpoint of rubber boots and shoes.

The New York market for Pará sorts has been quiet during the month just closed, but at the same time a condition of firmness has prevailed, and the month has been without marked fluctuations. New Islands fine has advanced a point, and is now at about 60 per cent. over one year ago. New Upriver fine is unchanged, and one or two other grades are a cent a pound lower.

The important inscription sale at Antwerp on January 21 went off at an average of about 25 centimes per kilogram (about 2 1-5 cents per pound) above broker's estimates, which is rather out of keeping with conditions in England and America, where the market is a trifle easier than some time ago. At the same time, all reports from Amazon primary markets are that sales are being effected at prices higher relatively than are being paid in the consuming markets.

The prices of Africans have changed irregularly, a few grades being quoted higher than a month ago; but for the most part a decline is shown, with some sorts unchanged. Centrals, on the whole, show a decline, while East Indian is without quotable change.

The arrivals at Pará of rubber of all kinds (including caucho) since the beginning of the crop season have been slightly more than last year, and larger than in any previous year except 1905-06. The figures for four years follow:

	1905-6	1906-7	1907-8	1908-9
July	1,450	1,840	1,370	1,300
August	1,300	1,690	1,500	1,890
September	2,200	2,070	2,420	2,355
October	3,580	3,030	3,200	3,460
November	2,890	3,480	3,200	3,430
December	3,270	2,610	2,560	3,300
January	5,710	3,780	4,860	43,855
Total	20,400	18,500	19,100	19,590

[a—To January 28, 1909.]

The importation of crude rubber into the United States during the year 1908, despite the financial depression with which the year opened, was larger than in any preceding year (with the single exception of 1906, when the total was 659 tons more). The combined deliveries to manufacturers in the United States and Canada were the same as during 1905, but somewhat smaller than during 1906 and 1907.

Following are the quotations at New York for Pará grades one year ago, one month ago, and January 30, the current date:

PARA	Feb. 1, '08.	Jan. 1, '09.	Jan. 30.
Islands, new, fine.....	71@72	113@114	114@115
Islands, fine, old	none here	none here	none here
Islands, fine new	74@75	121@122	121@122
Upriver, fine, old	75@76	124@125	123@124
Islands, coarse, new	45@46	55@ 56	56@ 57
Islands, coarse, old	none here	none here	none here
Upriver, coarse, new	55@56	92@ 93	92@ 93
Upriver, coarse, old	none here	none here	none here
Cameta		61@ 62	62@ 63
Caucho (Peruvian), sheet	50@51	71@ 72	72@ 73
Caucho (Peruvian), ball.	55@56	83@ 84	83@ 84
Ceylon (Plantation), fine sheet	89@90	129@130	128@129

AFRICAN.

Sierra Leone, 1st quality.	96@97	Lopori ball, prime....	109@110
Massai, red	96@97	Lopori strip, prime...	85@ 86
Benguella	61@62	Madagascar, pinky...	91@ 92
Accra flake	20@21	Ikelemba	none here
Cameron ball	60@61	Soudan niggers	82@ 83

CENTRALS.

Esmeralda, sausage	80@81	Mexican, scrap	79@ 80
Guayaquil, strip	69@70	Mexican, slab	56@ 57
Nicaragua, scrap	78@80	Mangabeira, sheet ...	53@ 54
Panama	60@61	Guayule	30@ 31

EAST INDIAN.

Assam	92@93	Borneo	35@ 45
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Late Pará cables quote:

	Per kilo.		Per kilo.
Islands, fine	5\$400	Upriver, fine	6\$375
Islands, coarse	2\$400	Upriver, coarse	4\$375
		Exchange	15¼d.

Latest Manáos advices:

Upriver, fine	6\$750	Exchange	15¼d.
Upriver, coarse	4\$750		

Statistics of Para Rubber (Excluding Caucho.)

NEW YORK.

	Fine and Medium.	Coarse.	Total 1908.	Total 1907.	Total 1906.
Stocks, November 30.....	136 tons	112	248	135	98
Arrivals, December	1706	593	2299	1078	2136

Aggregating	1842	705	2547	1213	2234
Deliveries, December	1647	656	2303	1099	2058

Stocks, December 31.....	195	49	244	114	176
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PARA.

	1908.	1907.	1908.	1907.	1906.
Stocks, Nov. 30....	475 tons	140	860	136	640
Arrivals, December....	3015	2285	2555	1439	1015

Aggregating	3490	2425	3415	1575	1655
Deliveries, December..	2795	2177	3415	800	825

Stocks December 31.	695	248	...	775	830
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ENGLAND.

	1908.	1907.	1908.	1907.	1906.
World's visible supply, December 31..	2,314 tons	2,484	2,314	2,484	1,978
Pará receipts, July 1 to December 31....	14,075	12,900	14,075	12,900	13,400
Pará receipts of Caucho, same dates.....	1,665	1,340	1,665	1,340	1,205
Afloat from Pará to United States, Dec. 31	849	585	849	585	952
Afloat from Pará to Europe, Dec. 31.....	251	707	251	707	485

Liverpool.

WILLIAM WRIGHT & Co. report [January 1]:

Fine Pará.—Considering the time of year the market has been active during the month; prices declined fully 3d. per pound, but have since recovered, and close at about 1d. per pound below last month's closing value for spot, and 2d. lower for forward positions; principal operators are, however, rather buyers than sellers at the decline. America, in spite of importing largely direct from Brazil, has taken 500 tons from the Liverpool market, and during the last six months we estimate the quantity of Pará rubber shipped from Liverpool to New York to be 1,750 tons, in addition to direct shipments from Brazil of 8,420 tons. This is an important factor for manufacturers to take into account. Receipts for the first six months of the crop show an increase of 1,500 tons Pará, but facilities for navigation have been exceptional, and therefore it is possible that some of the increase during the past may be at the expense of the following six months. In our opinion a basis of about 5s. [= \$1.21.6] for hard fine will be a safe one for a manufacturer to operate on. [This was about the prevailing rate at New York at the date of the above report. THE EDITOR.]

Antwerp.**RUBBER STATISTICS FOR DECEMBER.**

	1908.	1907.	1906.	1905.	1904.
Stocks, Nov. 30. <i>kilos</i>	604,170	1,015,282	714,919	635,296	611,726
Arrivals in December.	520,182	219,544	636,460	474,175	581,844
Congo sorts	454,701	190,000	579,700	436,404	460,386
Other sorts	65,481	29,544	56,760	37,771	121,458
Aggregating	1,124,352	1,234,826	1,351,379	1,100,471	1,193,570
Sales in December.	528,617	227,932	693,195	374,284	652,209
Stocks, December 31.	595,735	1,006,894	658,184	735,187	541,361
Arrivals since Jan. 1.	5,035,344	5,054,473	5,772,062	5,713,728	5,763,856
Congo sorts	4,262,331	4,346,141	4,593,759	4,442,607	4,723,618
Other sorts	772,813	708,332	1,178,303	1,271,121	1,040,238
Sales since Jan. 1.	5,446,593	4,705,763	5,849,065	5,519,805	5,833,395

RUBBER ARRIVALS FROM THE CONGO.**DECEMBER 28.—By the steamer *Albertville*:**

Bunge & Co.	(Société Générale Africaine) <i>kilos</i>	74,500
Do		97,500
Do	(Société Anversoise)	800
Do	(Comptoir Commercial Congolais)	17,800
Do	(Comité Spécial Katanga)	5,000
Do	(Société Abir)	6,100
Do	(Chemins de fer Grands Lacs)	1,000
Do	(Cie. due Kasai)	92,000
Société Coloniale Anversoise		6,300
Do	(Belge du Haut Congo)	8,400
Do	(Cie. du Lomani)	9,200
Do	(Cie. Français du Haut Congo)	2,200
G. & C. Kreglinger	(Lobay)	7,700
L. & W. Van de Velde		6,000
Paul Osterrieth		1,800
		336,300

* * *

THE offerings at the monthly inscriptions on January 21 embraced 251 tons, involving an unusually large number of grades—the Congo Free State, French Congo, Straits Settlements, Java, Sumatra, Uganda, Mexico, and Central America being represented. There were included 11,095 kilograms [=24,409 pounds] of plantation crepe from the Straits and 24 tons of Mexican guayule.

* * *

THE American Congo Co. figured as sellers, at the December auction, of 1,500 kilos Congo rubber at 11.30 francs [=99 cents

per pound] and 2,000 kilos at 6.17½ francs [=54 cents]. The broker's estimation on the two lots had been, respectively, 12.25 and 5.50 francs.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

DECEMBER 29.—By the Steamer *Crispin*, from Manáos and Pará:

IMPORTERS.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.
A. T. Morse & Co.	538,700	114,600	78,000	39,500	770,800
General Rubber Co.	276,900	79,100	97,300	7,400	460,700
Poel & Arnold	248,400	27,600	85,000	11,200	372,200
New York Commercial Co.	125,300	33,200	37,900	13,600	210,000
C. P. dos Santos	75,800	7,800	15,200	2,200	101,000
Hagemeyer & Brunn	31,000		42,200		73,200
Wm. E. Peck & Co.	8,900		3,300		12,200
Edmund Reeks & Co.	11,100		700		11,800
L. Johnson & Co.			6,600		6,600
Total	1,316,100	262,300	366,200	73,900	2,018,500

JANUARY 9.—By the Steamer *Maranhense*, from Manáos and Pará:

A. T. Morse & Co.	432,600	75,000	104,600	82,900	695,100
Poel & Arnold	151,400	41,100	118,100	20,200	330,800
General Rubber Co.	161,800	61,800	74,200	11,500	309,300
New York Commercial Co.	198,500	18,300	43,500	6,200	266,500
C. P. dos Santos	23,600	5,700	96,400	17,200	142,900
Hagemeyer & Brunn	46,200	1,400	6,600		54,200
Wm. E. Peck & Co.	18,000		28,400		46,400
Edmund Reeks & Co.	13,900		9,200		24,900
Total	1,046,000	205,100	481,000	138,000	1,870,100

JANUARY 25.—By the Steamer *Justin*, from Manáos and Pará:

New York Commercial Co.	521,700	95,000	141,200	145,900	903,800
Poel & Arnold	348,500	61,100	239,600	42,900	692,100
A. T. Morse & Co.	78,900	20,900	90,800	106,600	297,200
General Rubber Co.	50,100	25,900	89,300	2,700	168,000
Hagemeyer & Brunn	44,600		85,100		129,700
L. Johnson & Co.	31,300	7,000	1,100		42,400
Edmund Reeks & Co.	20,000		7,300		27,300
Czarnikow, McDougall & Co.	21,500				24,500
Wm. E. Peck & Co.	10,700		6,600		17,300
C. P. dos Santos			13,200		13,200
G. Amsinck & Co.				11,000	11,000
F. Rosenstein & Co.	8,100		3,000		11,100
Total	1,141,400	209,000	677,200	309,100	2,337,600

[NOTE.—The steamer *Benedict* is due at New York February 4, with 900 tons Pará and 150 tons Caucho on board.]

PARA RUBBER VIA EUROPE.

POUNDS.

DEC. 21.—By the *Campania*=Liverpool:

Poel & Arnold (Fine)	215,000
General Rubber Co. (Fine)	25,000
New York Commer. Co. (Fine)	10,000

DEC. 22.—By the *Trent*=Mollendo:

New York Commer. Co. (Fine)	6,500
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DEC. 26.—By the *Pretoria*=Hamburg:

Rubber Trading Co. (Fine)	8,000
W. L. Gough & Co. (Fine)	5,000
New York Commer. Co. (Fine)	6,000
Poel & Arnold (Coarse)	5,500

DEC. 26.—By the *Lucania*=Liverpool:

General Rubber Co. (Fine)	78,000
New York Commer. Co. (Fine)	14,000

DEC. 29.—By the *Bovic*=Liverpool:

Poel & Arnold (Fine)	22,000
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JAN. 2.—By the *Cedric*=Liverpool:

General Rubber Co. (Fine)	70,000
New York Commer. Co. (Fine)	11,500

JAN. 6.—By the *Georgic*=Liverpool:

General Rubber Co. (Fine)	11,000
Livesey & Co. (Fine)	1,500

JAN. 7.—By the *Tagus*=Mollendo:

New York Commer. Co. (Fine)	10,000
-----------------------------	--------

JAN. 8.—By the *Batavia*=Hamburg:

Poel & Arnold (Fine)	15,000
W. L. Gough & Co. (Fine)	4,500
Poel & Arnold (Cauchó)	22,500

JAN. 9.—By the *Campania*=Liverpool:

General Rubber Co. (Fine)	28,000
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JAN. 11.—By the *Saga*=Bolívar, Venza:

G. Amsinck & Co. (Fine)	25,000
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JAN. 18.—By the *Alliance*=Mollendo:

W. R. Grace & Co. (Cauchó)	25,000
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JAN. 18.—By the *Carmania*=Liverpool:

Livesey & Co. (Coarse)	6,500
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JAN. 20.—By the *Tojomo*=Bolívar, Venza:

For Hamburg (Fine)	11,000
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JAN. 22.—By the *Brasilia*=Hamburg:

Poel & Arnold (Fine)	11,000
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OTHER NEW YORK ARRIVALS

CENTRALS.

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

DEC. 21.—By the *El Val*=Galveston:

Continental-Mexican Rubber Co. *50,000

Mercer Rubber Co. *5,500 *55,500

DEC. 21.—By the *Baltic*=Liverpool:

General Rubber Co. 5,000

DEC. 24.—By the *Byron*=Bahia:

Poel & Arnold	29,000
A. Hirsch & Co.	8,500
J. H. Rosback & Bros.	3,500
A. D. Hitch & Co.	4,500

DEC. 26.—By the *Pretoria*=Hamburg:

Poel & Arnold	45,500
---------------	--------

DEC. 26.—By the *Merida*=Frontera:

Harburger & Stack	3,500
E. Steiger & Co.	2,000
Maxwell & Ruddy	1,000
American Trading Co.	1,000
Scholz & Marteret	1,000

DEC. 28.—By the *Colon*=Colon:

Demarest Bros. Co.	7,500
G. Amsinck & Co.	5,500
Hirzel, Feltman & Co.	4,500
L. Johnson & Co.	1,500
Smethers Nordenholt Co.	1,500
Hy. Mann & Co.	1,000
Fidankel Bros.	1,000

DEC. 28.—By the *Proteus*=New Orleans:

A. T. Morse & Co.	2,000
-------------------	-------

DEC. 29.—By the *El Cid*=Galveston:

Continental-Mexican Rubber Co.	*115,000
Republic Rubber Co.	*11,000

DEC. 30.—By the *Prinz Wilhelm*=Colon:

I. Brandon & Bros.	1,000
A. Held	1,000
Suzarte & Whitney	1,000
Roldan & Van Sickle	1,000

JAN. 2.—By the *Morro Castle*=Frontera:

E. N. Tibbals & Co.	3,500
General Export & Com. Co.	3,000
W. L. Wadleigh	4,000
Harburger & Stack	3,000
E. Steiger & Co.	2,000
Graham, Hinkley & Co.	1,000
H. Marquard & Co.	1,000

JAN. 2.—By the *Creole*=New Orleans:

A. T. Morse & Co.	2,500
Manhattan Rubber Mfg. Co.	1,000
Eggers & Heinlein	1,500

JAN. 2.—By the *Minnetonka*=London:

Edward Maurer	5,000
---------------	-------

JAN. 2.—By the *Panama*=Colon:

L. Johnson & Co.	4,500
National Machine Co.	4,500
Piza, Nephews & Co.	4,500
G. Amsinck & Co.	3,500
West Coast Rubber Co.	2,500
Mecke & Co.	2,000
Hirzel, Feltman & Co.	2,500
Aramburo Co.	2,000
Demarest Bros. & Co.	1,500
Wessels, Kulen, Kamp Co.	1,000
Silva Bussenius Co.	1,000

JAN. 4.—By the *El Rio*=Galveston:

Continental-Mexican Rubber Co.	*155,000
Dunlap Tire Co.	*2,500

JAN. 5.—By the *Hudson*=Bordeaux:

Robinson & Co.	11,500
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JAN. 5.—By the *Verdi*=Bahia:

A. D. Hitch & Co.	22,500
A. Hirsch & Co.	23,000
J. H. Rosback & Bros.	13,500
Poel & Arnold	4,500

JAN. 6.—By the *Heigin*=Tampico:

Edward Maurer	*115,000
Poel & Arnold	*45,000

JAN. 6.—By the *Siberia*=Colon:

G. Amsinck & Co.	11,500
A. Santos & Co.	8,000
A. M. Capeus Sons	1,000

JAN. 6.—By the *Manzanillo*=Tampico:

Edward Maurer	*140,000
Poel & Arnold	*45,000
New York Com. Co.	*34,000
H. Marquard & Co.	*15,000
General Export & Com. Co.	*5,000
J. A. Kendall Co.	*6,000

JAN. 7.—By the *Tagus*=Colon:

Kunhardt & Co.	11,500
J. Brandon & Bros.	9,000
A. Held	1,000

JAN. 9.—By the *Mexico*=Frontera:

Mexican Commercial Co.	1,000
E. Steiger & Co.	1,000
Graham, Hinkley & Co.	1,000
Isaac Kubie & Co.	1,000

JAN. 11.—By the *Vigilancia*=Tampico:

Edward Maurer	*145,000
Poel & Arnold	*18,000

JAN. 11.—By the *Advance*=Colon:

Meyer Hecht	2,000
-------------	-------

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No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it DOES NOT BLOW UNDER CURE.

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ELECTRIC INSULATION LABORATORY

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CHEMICAL IN THE
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Sole Representative of the **MADERO** interests in Mexico,

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Wessels, Kulem, Kamp Co.....	1,000	
Schulte & Gieschen	1,000	
G. Amsinck & Co.	1,000	
De Lima & Cortessa	1,000	6,000
JAN. 12.—By the <i>Antilles</i> =New Orleans:		
A. T. Morse & Co.	1,500	
E. N. Tibbals Co.	1,500	
General Export & Com. Co.	1,000	4,000
JAN. 13.—By the <i>Prins Joachim</i> =Colon:		
A. Rosenthal's Sons	6,000	
G. Amsinck & Co.	6,000	
Kunhardt & Co.	1,500	
A. Held & Co.	1,000	14,500
JAN. 16.—By <i>El Monte</i> =Galveston:		
Continental Mexican Rubber Co.	*110,000	
JAN. 16.—By the <i>Esperanza</i> =Frontera:		
Härburger & Stack	3,000	
General Export & Com. Co.	2,500	
H. Marquard & Co.	1,500	
A. Klipstein & Co.	1,000	8,000
JAN. 18.—By the <i>Alhambra</i> =Colon:		
D. A. De Lima & Co.	2,500	
I. Brandon & Bros.	20,000	
Mecke & Co.	1,000	
Piza, Nephews & Co.	1,000	24,500
JAN. 18.—By the <i>Bayamo</i> =Tamayo:		
Edward Maurer	*115,000	
New York Commercial Co.	*34,000	
Poel & Arnold	*8,000	
General Export Com. Co.	*3,000	*160,000
JAN. 20.—By the <i>Tennyson</i> =Bahia:		
A. D. Hitch & Co.	10,000	
JAN. 20.—By the <i>Colon</i> =Colon:		
I. Brandon & Bros.	5,000	
A. Santos & Co.	2,500	
G. Amsinck & Co.	3,000	
Hirzel, Feltman & Co.	1,500	
F. Lapeirda	1,500	
L. Johnson & Co.	1,000	
Eggers & Heinlein	1,000	15,500
JAN. 21.—By <i>El Sud</i> =Galveston:		
Continental-Mexican Rubber Co.	*35,000	
JAN. 22.—By the <i>Italian Prince</i> =Bahia:		
Poel & Arnold	22,500	
A. Hirsch & Co.	8,000	
J. H. Rosshack & Bros.	5,500	36,000
JAN. 23.—By <i>El Monte</i> =Galveston:		
Continental-Mexican Rubber Co.	*115,000	

AFRICANS.

DEC. 21.—By the <i>Campania</i> =Liverpool:		
General Rubber Co.	4,500	
Poel & Arnold	4,000	8,500
DEC. 21.—By the <i>Baltic</i> =Liverpool:		
General Rubber Co.	47,000	
Poel & Arnold	5,000	52,000
DEC. 22.—By the <i>Amerika</i> =Hamburg:		
A. T. Morse & Co.	34,000	
W. L. Gough Co.	15,000	
George A. Alden & Co.	7,000	56,000
DEC. 23.—By the <i>Kronland</i> =Antwerp:		
A. T. Morse & Co.	32,000	
W. H. Stiles & Co.	7,000	39,000
DEC. 26.—By the <i>Pretoria</i> =Hamburg:		
George A. Alden & Co.	25,000	
W. L. Gough Co.	13,500	
Livesey & Co.	5,500	44,000
DEC. 26.—By the <i>Lucania</i> =Liverpool:		
George A. Alden & Co.	125,000	
General Rubber Co.	33,500	
Robinson & Co.	7,000	165,500
DEC. 29.—By the <i>Zeeand</i> =Antwerp:		
Poel & Arnold	55,000	
A. T. Morse & Co.	38,000	
Rubber Trading Co.	5,500	98,500
DEC. 29.—By the <i>Borne</i> =Liverpool:		
General Rubber Co.	45,000	
Poel & Arnold	5,000	50,000
DEC. 30.—By the <i>Massachusetts</i> =London:		
Robinson & Co.	4,500	
DEC. 31.—By the <i>Erika</i> =Lisbon:		
General Rubber Co.	90,000	

JAN. 2.—By the <i>Celtic</i> =Liverpool:		
General Rubber Co.	18,000	
Poel & Arnold	17,000	
George A. Alden & Co.	8,000	
Livesey & Co.	3,000	46,000
JAN. 3.—By the <i>Haden</i> =Bordeaux:		
General Rubber Co.	22,500	
JAN. 7.—By the <i>Samland</i> =Antwerp:		
Rubber Trading Co.	22,500	
A. T. Morse & Co.	7,000	29,500
JAN. 8.—By the <i>Carlota</i> =Havre:		
George A. Alden & Co.	22,500	
JAN. 9.—By the <i>Campania</i> =Liverpool:		
General Rubber Co.	15,000	
George A. Alden & Co.	11,500	
W. L. Gough Co.	5,500	
A. T. Morse & Co.	2,000	
Poel & Arnold	2,000	
Rubber Import Co.	2,500	38,500
JAN. 12.—By the <i>Mesaba</i> =London:		
Robinson & Co.	4,500	
JAN. 14.—By the <i>Franklin</i> =Antwerp:		
A. T. Morse & Co.	11,500	
W. H. Stiles & Co.	11,500	
Rubber Trading Co.	6,500	29,500
JAN. 16.—By the <i>Laferland</i> =Antwerp:		
A. T. Morse & Co.	40,000	
JAN. 22.—By the <i>Brasilia</i> =Hamburg:		
General Rubber Co.	30,000	
Livesey & Co.	15,000	
George A. Alden & Co.	15,000	
W. L. Gough Co.	5,500	
Rubber Trading Co.	5,000	70,500

EAST INDIAN

[*Denotes plantation rubber.]

DEC. 21.—By the <i>St. Paul</i> =London:		
Poel & Arnold	*18,000	
DEC. 21.—By the <i>Minneapolis</i> =London:		
General Rubber Co.	*16,000	
New York Commercial Co.	*12,000	
A. T. Morse & Co.	*9,000	*37,000
DEC. 24.—By the <i>Bucrania</i> =Colombo:		
A. T. Morse & Co.	*7,000	
DEC. 26.—By the <i>Adriatic</i> =London:		
Poel & Arnold	*20,000	
A. T. Morse & Co.	*3,500	
Poel & Arnold	3,000	26,500
DEC. 28.—By the <i>Shimosa</i> =Singapore:		
Otto Isenstein & Co.	34,000	
George A. Alden & Co.	2,000	36,000
DEC. 30.—By the <i>Massachusetts</i> =London:		
New York Commercial Co.	*5,000	
DEC. 31.—By the <i>Arenfels</i> =Colombo:		
A. T. Morse & Co.	*11,000	
JAN. 2.—By the <i>Minnetonka</i> =London:		
New York Commercial Co.	*4,500	
JAN. 4.—By the <i>St. Louis</i> =London:		
Poel & Arnold	*22,500	
JAN. 4.—By the <i>Indram</i> =Singapore:		
Heabler & Co.	29,000	
Joseph Cantor	8,000	
W. L. Gough & Co.	11,000	48,000
JAN. 11.—By the <i>Lichenfels</i> =Colombo:		
A. T. Morse & Co.	*11,000	
JAN. 12.—By the <i>Mesaba</i> =London:		
Robinson & Co.	11,500	
JAN. 14.—By the <i>Teutonia</i> =London:		
Poel & Arnold	13,500	
JAN. 16.—By the <i>Rheinfels</i> =Colombo:		
A. T. Morse & Co.	*11,500	
JAN. 18.—By the <i>Minnehaha</i> =London:		
New York Commercial Co.	*23,000	
A. T. Morse & Co.	*10,000	
Poel & Arnold	*2,500	35,500
JAN. 21.—By the <i>St. Patrick</i> =Singapore:		
Otto Isenstein & Co.	28,000	
W. L. Gough & Co.	10,000	38,000

G. A. Alden & Co.		
POUNDS.		
DEC. 26.—By the <i>Indra</i> =Hamburg:		
Macklenburg & Co.	20,000	
DEC. 28.—By the <i>St. Paul</i> =London:		
Heabler & Co.	95,000	
G. Weschuer & Co.	80,000	
George A. Alden & Co.	200,000	375,000
JAN. 4.—By the <i>Indram</i> =Singapore:		
L. C. Hopkins Co.	125,000	
Heabler & Co.	155,000	
G. Weschuer & Co.	120,000	
George A. Alden & Co.	90,000	515,000
JAN. 21.—By the <i>St. Paul</i> =Singapore:		
L. C. Hopkins Co.	125,000	
G. Weschuer & Co.	125,000	
Heabler & Co.	125,000	350,000
G. A. Alden & Co.		
POUNDS.		
DEC. 26.—By the <i>Indra</i> =Hamburg:		
E. Oppenheimer	8,000	
DEC. 28.—By the <i>St. Paul</i> =Singapore:		
George A. Alden & Co.	45,000	
JAN. 4.—By the <i>Indram</i> =Singapore:		
George A. Alden & Co.	45,000	
W. L. Gough Co.	20,000	
Heabler & Co.	10,000	75,000
JAN. 21.—By the <i>St. Paul</i> =Bogotá, Venezuela:		
Heabler & Co.	45,000	

B. A. Alden & Co.		
POUNDS.		
DEC. 26.—By the <i>Indra</i> =Hamburg:		
George A. Alden & Co.	13,500	
Middleton & Co.	1,000	
Heabler & Co.	1,000	15,500
JAN. 11.—By the <i>St. Paul</i> =Demerara:		
G. Amsinck & Co.	1,000	
Middleton & Co.	1,000	2,500
JAN. 11.—By the <i>Saga</i> =Bogotá, Venezuela:		
G. Amsinck & Co.	100,000	
J. A. Pauli & Co.	9,000	
American Trading Co.	7,000	
For. Export	145,000	461,000
JAN. 12.—By the <i>Mesaba</i> =London:		
H. A. Gould & Co.	4,500	
JAN. 14.—By the <i>Statenland</i> =Rotterdam:		
Earle Brothers	7,000	
JAN. 15.—By the <i>Minas</i> =Trinidad:		
American Trading Co.	11,500	
Frame & Co.	1,500	
C. Tennants Sons & Co.	1,000	14,000
JAN. 20.—By the <i>Tofano</i> =Bogotá, Venezuela:		
G. Amsinck & Co.	42,000	

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK, DECEMBER.

Imports:	Pounds.	Value.
India rubber	8,822,334	\$7,191,664
Balata	21,202	11,085
Gutta percha	10,381	5,488
Gutta-jelutong (Pontianak)	1,506,185	46,646
Total	10,440,002	\$7,254,883
Exports:	Pounds.	Value.
India rubber	23,688	\$18,316
Reclaimed rubber	48,847	6,188
Balata	14,124	8,520
Rubber scrap imported	1,302,775	\$103,486

BOSTON ARRIVALS.

POUNDS.		
DEC. 20.—By the <i>Shimosa</i> =Singapore:		
George A. Alden & Co., East Indian	800	
DEC. 23.—By the <i>Dezoman</i> =Liverpool:		
George A. Alden & Co., Africans	6,600	
DEC. 23.—By the <i>Axenfels</i> =Colombo:		
A. T. Morse & Co., East Indian	4,476	
Total	11,876	

CONSUMPTION OF INDIA-RUBBER BY THE UNITED STATES AND CANADA (IN TONS).

[From the Annual Statistical Summary of Albert T. Morse & Co., New York.]

DETAILS.	1805.	1806.	1807.	1808.	1809.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.
Imports to United States	16182	14333	17671	18620	23095	20468	23208	21842	24760	27623	28035	29936	29433	29477
Exports to Europe	324	500	250	150	300	450	680	430	490	274	357	1625	558	480
Add stock on January 1	15858	13833	17421	18470	22705	20018	22528	21412	24270	27349	28278	28311	28875	28997
Less stock close of year	1420	558	641	744	591	712	1108	1309	331	250	305	537	305	600
Deliveries to manufacturers ..	16720	13750	17318	18623	22674	19532	22327	22480	24345	27300	28046	28483	28634	28050

Imports of guayule rubber, 3,850 tons.

*Includes Crispin's cargo, 900 tons.



Vol. 39.

FEBRUARY 1, 1909.

No. 5.

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Plantation Rubber.

LONDON, December 31.—At to-day's auction of 1,425 packages of Ceylon and Malaya plantation rubber—a total of about 74 tons—1,151 packages found buyers at an irregular advance of from 1d. to in some cases 2d. per pound on last sale rates. A parcel of Lanadron block of about 6 tons was partly sold at 5s. 10d. to 5s. 10½d. [= \$1.42.4]. The next best figure was 5s. 7¾d. [= \$1.37.3] for Gikiyanakande estate worm. The highest price for crepe was 5s. 6¾d. [= \$1.35.3]. The average realized for Plantation was 5s. 2d. [= \$1.25.7], against 3s. 2½d. [= 78 cents], the average at the corresponding sale a year ago. Hard fine Pará to-day sold up to 5s. 1½d. [= \$1.24.7].

LONDON, January 25.—At to-day's auction of 2,138 packages of Ceylon and Malaya plantation rubber—a total of about 106 tons, the largest quantity of Plantation that has ever been offered at a single sale—1,621 packages found buyers at irregular prices, but on the whole marking a decline of from 2d. to 3d. per pound, as compared with the preceding auction. Part of an invoice from Sereban estate brought 5s. 8d. [= \$1.37.8], as also did some pale Warriapolla biscuits—the highest price of the sale. Gow, Wilson & Stanton, Limited, report that as a number of samples were not received until just before auction, buyers were handicapped in valuing the sale. The average realized for Plantation was 5s. 0 ½d. [= \$1.21.7]. Hard fine Pará sold to-day up to 5s. 0 ½d. [= \$1.22.6].

TO-DAY'S QUOTATIONS FOR PLANTATION.

<i>Sheets and Biscuits:</i>	
Fine pale Worm.....	5s. 5¼d.
Fine pale Biscuits.....	5s. 8d.
Good to fine Biscuits.....	5s. 1¼d. @ 5s. 4½d.
Good to fine Sheet.....	5s. 1¼d. @ 5s. 1¾d.
<i>Crepe:</i>	
Very pale Crepe.....	5s. 8d.
Medium and palish.....	4s. 11d. @ 5s. 3½d.
Dark and brown.....	3s. 10½d. @ 4s. 9¾d.
<i>Unwashed Scrap:</i>	
Medium to fine.....	3s. 9d. @ 4s. 2¼d.

The exports of plantation rubber from Malaya from January 1 to November 30 were as follows:

	Pounds.		Pounds.
To Great Britain.....	2,658,177	To Australia.....	19,162
To Europe.....	271,858	To Ceylon.....	268,187
To United States ...	400		
To Japan.....	9,352	Total.....	3,227,136

[From Singapore, 1,857,312; from Penang, 1,369,884.]

The above rate points to the exports from Malaya of about 3,500,000 pounds of plantation rubber for the whole year, against 2,089,085 pounds in 1907 and 817,769 pounds in 1906.

Rotterdam Rubber Statistics

		INDIA RUBBER.	
		1907.	1908.
Stocks, January 1.....	kilos	106,800	86,800
Arrivals during year.....		1,089,000	1,273,400
Aggregating		1,195,800	1,360,200
Deliveries during year.....		1,109,000	1,305,200
Stocks, December 31.....		86,800	55,000
		BALATA (SURINAM SHEET.)	
		1907.	1908.
Stocks, January 1.....	kilos	4,800	nil
Arrivals during year.....		224,000	330,000
Aggregating		228,800	330,000
Deliveries during year.....		228,800	312,000
Stocks, December 31.....		nil	18,000
		GUTTA-PERCHA.	
		1907.	1908.
Stocks, January 1.....	kilos	173,000	121,300
Arrivals during year.....		43,000	37,800
Aggregating		216,000	159,100
Deliveries during year.....		94,700	48,600
Stocks, December 31.....		121,300	110,500

Rubber Receipts at Manaos.

DURING November and five months of the crop season, for three years [courtesy of Messrs. Scholz & Co.]:

FROM	NOVEMBER.			JULY-NOVEMBER.		
	1908.	1907.	1906.	1908.	1907.	1906.
Rio Purús-Acre.....	556	528	638	3,071	2,635	2,157
Rio Madeira.....	280	259	395	1,464	1,295	1,678
Rio Jurá.....	380	283	335	987	748	857
Rio Javary-Iquitos.....	331	420	472	1,227	1,454	1,366
Rio Solimoes.....	256	216	126	509	611	319
Rio Negro.....	13	27	44	19	30	58
Total	1,834	1,733	2,010	7,277	6,773	6,435
Caucho	224	150	175	1,070	934	826
Total	2,058	1,883	2,185	8,347	7,707	7,261

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Consulting Chemist,

89 Pine St., Phone. 823 John, New York City.

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THE INSIDE.



INDIA RUBBER WORLD

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DACYOPSIS GUTTA

GUTTA-PERCHA

Edited by HENRY C. PEARSON—Offices, No. 395 Broadway, NEW YORK.

Vol. XXXIX. No. 6.

MARCH 1, 1909.

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TABLE OF CONTENTS ON LAST PAGE READING MATTER.**SECRETARY STRAUS AND COMMERCE.**

THE British practice in dealing with members of the Government who may retire for any reason differs from the American practice in that whereas the Britisher is placed upon half pay for the remainder of his life, assuring him a few years of leisure, if he so elects, an American cabinet minister upon leaving Washington is most likely to be taken into a great financial or business or legal organization—according as his governmental work may have demonstrated his special capacity—often at a compensation far beyond that paid by any government. We have no comment to make in this connection, other than to suggest that the American practice proves a higher capacity of those who are called to the public service than, perhaps, is appreciated by very many citizens.

At the moment we have in mind the head of the most recently created position in the Washington "cabinet"—a gentleman who, while distinguished as a scholar, a lawyer, an author, and a some time brilliant member of the country's diplomatic service, is, and has been all the while, part of an important mercantile firm. This gentleman, at least, upon laying down his official portfolio, will have no financial reasons to consider seriously any proposals which may be made to him to become connected with a

new line of money earning activity. But this latter fact is no proof of his superiority in talent to other members of the advisory board of the President now or in the past.

The fact is that it is becoming more widely recognized in America, as it should be, that there is no more honorable profession than the public service, and it attracts men of the highest talent, despite the machinations of those whose ideal of politics is that a public trust is a fat "job." The American office holder, now more than ever, is instinct with the idea, not merely of earning a personal reputation to be proud of, but of contributing to the national development which will put his country upon the highest possible plane. Not that we can point to any administration since the first year of the United States government in which such sentiments did not prevail; but to-day they are more widely diffused among the public than ever before.

The particular member of the Washington cabinet already referred to has striven incessantly while in office to bring into closer coöperation with the government the organized or concentrated commercial thought and sentiment of the country, to the end that the Congress may legislate with the fullest possible knowledge of the interests to be affected by any proposed law. Since Rome was not built in a day, it is possible that Mr. Secretary Straus's plans may not crystallize completely during his term of office, but we do not doubt that the newly organized National Council of Commerce—of which he is distinctly the father—will reach such a degree of usefulness as to prove one of the most notable monuments that has ever existed to the memory of an American statesman.

RUBBER OVERPRODUCTION—AND "CAUCHO."

WE take it that a gentleman so long interested and to so large an extent in plantation companies—tea, rubber and other—as Mr. Arthur Lampard, would not have introduced in his address as chairman at the recent meeting of shareholders of the United Serdang (Sumatra) Rubber Plantations, Limited, the figures upon which he based his remarks, without first having them verified. Hence we are reproducing them here as presented by him, without looking up the authorities on the subject, particularly as upon their face they seem to agree with similar computations made from time to time, for somewhat different periods, for THE INDIA RUBBER WORLD.

The point of Mr. Lampard's remarks was that the prices realized for crude rubber do not decrease with a larger production. In other words, from the beginning of the rubber industry, the consumption of the raw material has increased at such a rate as constantly to put up prices, although every year, as a rule, has brought more rubber to market than had been handled before. We may summarize here Mr. Lampard's figures for the exports

of rubber from Pará, which he gives for the periods of five crop years, and the price figures are his, as well as those for quantities:

	Average Yearly Export	Average Price per lb.
Five years to 1889-1890.....	14,012	35. 1 ¹ / ₂ d.
Five years to 1894-1895.....	18,702	35.
Five years to 1899-1900.....	23,524	35. 10 ¹ / ₂ d.
Five years to 1904-1905.....	30,235	48. 23 ¹ / ₂ d.
3 ¹ / ₂ years to Dec. 31, 1908.....	35,077	48. 8 ¹ / ₂ d.

While not certain as to how Mr. Lampard's "average price" has been arrived at, we do know that Pará rubber costs more now than formerly, and that while prices fluctuate, there is no indication, so far as the Amazon rubber situation alone is concerned, of a decline at any time to the figures current a dozen years ago, or earlier. Mr. Lampard has seen the average yearly production of Pará rubber increased 144 per cent. within a little more than a score of years, while the average price has advanced 50 per cent. or more. At this rate, what would be the ultimate result? We feel confident that, while extensive rubber resources in the Amazon watershed are yet untouched, the growing demand for this material has developed the maximum productive capacity in those regions. The reason that more rubber has not been forthcoming is that the people on the ground there have not been able to get it out.

But the Amazon region does not yield all the rubber used; probably not more than half comes from there. The difference between this region and others, however, is that whereas the *Hevea* trees, as exploited in South America, yield rubber year after year, most other species, under the methods of treatment applied to them, yield rubber only once, leaving the forests in time entirely without rubber. In the end, therefore, if the world's dependence for rubber were solely upon forest produce, there would be left only the *Hevea* trees, with a possible price for the product which it would not be comfortable to contemplate.

It happens, however, that the production of rubber on plantations has been undertaken with such success as to insure possibly a sufficient supply even if all the forest rubber reserves should become exhausted. Mr. Lampard's own company have brought into existence a planted rubber forest described as "a solid block of 11¹/₄ square miles," on which are nearly a million rubber trees; not such a forest as one finds in South America, where five rubber trees to the acre are a good average. This Sumatra plantation is typical of many hundreds, the progress of which has led to the question whether there is not danger of overproduction in sight.

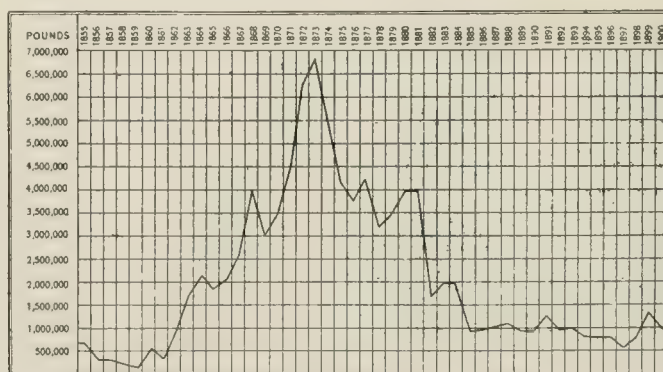
Mr. Lampard does not fear overproduction. He has seen more rubber coming to market every year, and at the same time prices have gone up. There is no reason to suppose that the limit of rubber consumption has been reached; on the contrary new uses for rubber are developed all the while. On the other hand, while more rubber does come forward, the limits of forest production are

discernible. The Amazon country lacks facilities for a larger output, and in other regions the rubber sources are becoming exhausted. For these various reasons, Mr. Lampard feels that when all the rubber trees now planted have become tappable there still will not be too much rubber coming to market to render its production unprofitable.

While on the subject of Amazon rubber, it may be pointed out that not nearly all the rubber coming down that stream is "Pará," or *Hevea* rubber. There exist in the forests of northern Brazil and parts of Bolivia and Peru trees which yield plentifully a desirable rubber marketed under the Spanish term "Caucho." It is understood to be derived almost wholly by the destruction of the trees, so that, while large quantities are now coming to market, the mere largeness of the trade in caucho only points to its earlier disappearance. This table shows the total quantity (in kilograms) of rubber exported through Pará during the past ten calendar years, and also the extent to which caucho figured in the shipments:

YEARS.	Rubber.	Caucho.	Total.
1899.....	22,894,538	2,535,426	25,430,009
1900.....	23,997,063	2,751,600	26,748,663
1901.....	26,326,609	3,963,889	30,290,498
1902.....	25,359,403	3,190,377	28,549,780
1903.....	26,884,114	4,210,828	31,094,942
1904.....	26,200,180	4,443,956	30,644,136
1905.....	27,905,982	6,010,906	33,916,888
1906.....	28,436,733	6,331,022	34,767,755
1907.....	30,358,712	7,155,440	37,514,152
1908.....	30,631,737	7,431,614	38,063,351

It will be seen that while the total exports of rubber from Pará have increased 50 per cent. in ten years, the exports other than caucho have increased less than 34 per cent. These figures are significant, in view of the fact that only *Hevea* rubber remains to be considered seriously among forest rubber products by planters outlining their policy for the future. Formerly no caucho came through Pará. It was discovered extensively in Colombia, which used to ship as much as 7,000,000 pounds in a year, but finally the export dropped to almost nothing—exhaustion. The caucho gatherers shifted to new fields and to-day are exerting themselves to the utmost to kill all the trees in the Amazon valley yielding this grade of rubber. And caucho trees, once killed, stay dead.



RISE AND DECLINE OF RUBBER PRODUCTION IN COLOMBIA.

[The chart illustrates what is customary in other regions than where rubber is obtained by systematic periodical tapping.]

RETALIATORY PATENT BILLS.

RECENT legislation in England in relation to patents is having an effect elsewhere. For instance, Representative Frank D. Carrier has introduced a bill in the United States congress (H. R. 27,534) to amend the patent laws so as to provide "That whenever a patent is issued to any citizen or subject of a foreign country it shall be subject with respect to its manufacture in this country to all the limitations, conditions, and restrictions that are imposed by the country of said citizen or subject upon the manufacture in that country of patents issued therein to citizens of the United States: *Provided further*, That this act shall not affect any patent heretofore granted."

The Times (London) reports that the French government proposes to amend the law of July 5, 1844, which enacts that failure to exercise patent rights shall entail lapse of patent, in the following sense: Patent rights shall be held to lapse in the event of failure on the part of the holder either to exercise his rights in France or in the French colonies for a period of three years after applying for his certificate, or to resume exercise after a similar interval, or secondly, in the event of only partial exercise of the patent in French territory. In the second event the patent courts will be invested with discretionary powers to call upon the holder of the patent to show cause why he should not exercise his rights in French territory "in an adequate degree."

Apropos of an editorial on "Evading British Patent Law" in the last INDIA RUBBER WORLD, it was interesting to find in the simultaneous issue of *Electrical World* (New York), in an article on this subject by an English barrister, the suggestion:

"There are divers courses open to the inventor foreign to England which will enable him to avoid having to set up a factory on British soil. In the first place, he may manufacture the parts of a complicated machine, and have them assembled in England. The point has not yet been decided, but the English courts may hold that this constitutes manufacture."

WE REGRET TO NOTE that a former friend is circularizing the rubber trade under the name India Rubber Publishing Co. He or his company have absolutely no connection with THE INDIA RUBBER WORLD, or The India Rubber Publishing Co.

IF THE DOCTRINE OF "LESE MAJESTY" obtained in England we wonder what would have happened to the editor of *The Standard* (London) when, in the issue of January 30, that paper, in dealing with Congo rubber, quoted from a report of "his Botanic Majesty's consul at Boma."

THE LATEST EVIDENCE THAT "PLANTATION" is good rubber is found in the statement by an eminent British manufacturer that it is being counterfeited. He claims to have had offers of several lots of so-called plantation rubber "very little of which has ever come from any plantation." We may expect in time to see a demand in the trade for experts who can determine "plantation" from "wild" rubber, unless the planters should succeed generally in producing better grades than can be obtained from native sources.

RETURNS FROM TEN RUBBER PLANTATION COMPANIES in Ceylon and Malaya, taken at random, as will be seen on another page, show a total production of 209 tons in 1906; 482 tons in 1907, and 813 tons in 1908. We take it that these figures indicate fairly well the rate of increase of production on well developed rubber plantations, and they point to the possibilities to be considered when plantations now tapping thousands of trees come to deal with millions which are growing thriftily but have not yet reached a tappable size.

THE WORLD'S TOBACCO CROP in 1907 amounted almost to 3,000,000,000 pounds. This is an enormous weight, and the money value was also great. The subject is of interest in connection with rubber culture in that the introduction of tobacco growing into so many countries other than its native habitat has been so successful from a cultural standpoint, and likewise so profitable. There would seem to be no natural reason why tobacco should prove superior in these respects to rubber yielding species.

ENZYMES AND THE COLOR OF RUBBER.

A RECENT visitor to the United States, where he stayed for a brief week only, summoned by cable for consolation, was Dr. David Spence, who has long been connected with the Liverpool Society of Tropical Research. Dr. Spence has made a reputation for certain discoveries of a specific for the cure for the sleeping sickness, a disease that is as fatal in Africa, particularly in the rubber gathering regions, as yellow fever has ever been in tropical America. It is in connection with his investigations of crude rubber, however, and particularly of the latex of rubber producing trees, that the trade knows him best. One of his most interesting and valuable discoveries relates to the cause for the dark color of Pará and other rubbers. This is due to an active oxidizing enzyme. The discoverer's own description is here added:

"These enzymes are probably, as I learned, present in the protein of the latex of all rubber producing plants, and so act upon the insoluble portion of the protein that it is converted into colored products, which impart the dark color to the rubber. In my original work I determined that the temperature at which the oxidizing enzymes are destroyed lies very close to the point where in general other similar enzymes perish. To obtain rubber only slightly darkened, it seems, at first glance, only necessary to destroy the active enzymes in the latex or the rubber by heating above the sterilizing temperature, 75 deg. C. But this method of destroying the enzymes by means of heat is not so easily accomplished in practice, and this fact led me to the belief that in the latex and in the rubber there was a heat resisting agent, zymogen, which slowly changed into active enzymes.

"I found, for example, that freshly cut pieces of Pará rubber, washed thoroughly with water for more than an hour to remove the strongly colored soluble matters, gradually darkened and after exposure to the air finally became entirely black. Potassium cyanide, a mercury chloride solution, or acetic acid, failed to prevent the dark coloration, or at least after the above solutions were completely removed by washing. I made many experiments with the latex of *Funtumia elastica*, but found without exception that heating the latex or the rubber prepared therefrom even to 100° C. for half an hour was insufficient to alter the tendency to turn dark. It is known that certain natives on the West African coast obtain rubber from the latex of *Funtumia elastica* by heating it with water until the separating rubber particles coalesce into balls. Nevertheless, I have seen no sort of rubber prepared in this manner in which the effect of the active oxydase enzyme was not plainly observable.

"Since the oxidizing enzyme is very stable towards heat, the best method for handling the latex to secure only faintly colored rubber appears to be the one presented previously by me and now repeated here. By this method the enzyme itself is to be removed as completely as possible before coagulation. The latex is diluted with water before the coagulation and the agglomerating rubber particles washed well (this applies at least to *Funtumia elastica*) in order to remove the oxidizing enzyme as well as other foreign matter from the rubber. In this manner a snow white rubber is obtained.

"Yet to prevent as much as possible the harmful effect when

using the boiling process a substance having a noxious action against the enzyme but a harmless one toward rubber could be utilized. Many experiments to discover a body which would render innocuous the oxidizing enzyme have been fruitless. So, from a practical standpoint, the destruction of the oxidizing enzyme is not as simple a matter. There are a number of difficulties to overcome, and, only when the nature and properties of the enzyme are more closely investigated, may we hope to ascertain a practical method for the removal of this substance."

EXPERT OPINION ON PLANTATION RUBBER.

THE very interesting comments on plantation rubber by Herr Prinzhorn, a prominent German manufacturer, reproduced in the last INDIA RUBBER WORLD (page 183) are fittingly supplemented by the expressions attributed to a British manufacturer by the *Ceylon Observer*. The gentleman referred to is Mr. Patrick Millar Matthew, chairman and managing director of The Victoria Rubber Co., Limited, of Leith, Scotland, who recently made an extended visit to the rubber planting districts of the Far East. We quote from an editorial in the Ceylon newspaper:

"Though we did not personally meet him, we hear that while in Colombo, Mr. Matthew—who had seen some fine rubber in Malaya, including one 15-year-old tree which had given 50 pounds dry rubber in one year—gave it as his opinion that the ultimate killing out of the wild rubber industry by the 'plantation' was regarded by him as a certainty; and that it was only a question of time, himself thinking it would probably not be consummated for another twenty-five years. No wonder, therefore, that Continental as well as British users of rubber on a large scale are coming out to make certain for themselves the extent (in acreage) and resources (in capacity for big yields) of plantation rubber in the East. Mr. Matthew, we hear, has interests in plantations in Johore and has recently made a tour of estates in Malay Peninsula.

"He is very satisfied in every way with the prospects of the plantation industry and says that the rubber can be used for any purposes, and in some trials made for the sake of comparison the plantation product gave better results than the Brazil rubber. From plantation rubber he has turned out splendid 'thread rubber,' which is a very high test. As regards the age of the trees, and its influence on the quality of the rubber, he is of opinion, from his experience, that after, say, 8 years, the rubber is of full strength, and there is little difference between the rubbers of trees 8, 12 and 15 years of age.

"Mr. Matthew is also of opinion that all rubber should be shipped in the form of crepe, and does not favor biscuit, sheet, etc. He also advises—and is, we hear, very particular upon this—that every estate should mark its rubber with its stamp. This can easily be done by the creping machine. The reason is that there are in England certain small firms who are offering to manufacturers and others lots of 'plantation crepe rubber,' very little of which has ever come from any plantation. A small percentage of it is plantation rubber, and this is blended and mixed with African and other low grade rubbers, washed and creped, and then offered as the genuine article from the East, at a handsome profit to the blenders. Mr. Matthew's firm has had repeated offerings of this sort, and he thinks it would be of great service to the plantation industry if all rubber were marked with the estate mark."

Following the publication of the above comments attributed to Mr. Matthew, he wrote to *India-Rubber Journal* (London) to the effect that he had not been quoted with accuracy. He said, among other things: "I am aware that it is the view of some experts that plantation rubber 'can be used for any purpose,' and that 'splendid thread rubber' can be made from it, but this is not my opinion. There is no doubt that, if properly treated, plantation rubber can be successfully employed for most purposes

for which wild Pará is now in use, and possibly in time to come it may be used in the manufacture of thread, which is probably the highest test of quality to which it can be subjected."

Another British manufacturer who lately has visited the Far East is Mr. Arthur Stanley Morrison, a director in the Leyland and Birmingham Rubber Co., Limited, and has long been interested in the rubber manufacture in a practical way. Mr. Morrison is a director in at least one planting company, as also is one of his fellow directors in Leyland and Birmingham.

A pertinent comment in a London financial paper is that, more than questions of quality and price, the introduction of plantation rubber in many factories has been retarded by the small total stocks available thus far, and the irregularity of arrivals. With the constant increase of production, however, these drawbacks seem likely soon to disappear.

RUBBER MANUFACTURERS IN PLANTING COMPANIES.

Colonel R. K. Birley, C. B., V. D., chairman of Charles Macintosh & Co., Limited, chairman of Beaufort Borneo Rubber Co., Limited.

P. A. Birley, of Charles Macintosh & Co., Limited, director in Manchester North Borneo Rubber Co., Limited.

F. H. Smith, of Charles Macintosh & Co., Limited, director in Manchester North Borneo Rubber Co., Limited.

James E. Baxter, chairman of the Leyland and Birmingham Rubber Co., Limited, director in the Manchester North Borneo Rubber Co., Limited.

Arthur S. Morrison, Leyland and Birmingham Rubber Co., Limited, director in Manchester North Borneo Rubber Co., Limited.

C. E. Ireland Blythe, of the North British Rubber Co., Limited, director in the British Sumatra Rubber Co., Limited.

Patrick M. Matthew, chairman of Victoria Rubber Co., Limited, director Tebrau (Johore) Rubber Syndicate, Limited, Malaya.

W. W. Maclellan, of George Maclellan & Co., Limited, director of British Borneo Pará Rubber Co., Limited; Jugra Land and Rubber Estate Co., Limited; and Shelford Rubber Estate Co., Limited—the latter two in Federated Malay States.

Peter Maclellan, of George Maclellan & Co., Limited, director in Trolak Plantations, Limited, Federated Malay States.

In Exploitation Rather Than Planting Companies.

Arthur du Cros, of Dunlop Rubber Co., director in Liberian Rubber Corporation, Limited, West Africa.

James O. Callender, of Callender's Cable and Construction Co., director in De Mello Brazilian Rubber Co., Limited, Brazil.

THE NEXT RUBBER EXHIBITION.

THE proposal to hold an international rubber exhibition in London in 1910 has been met with the suggestion in various quarters that this date does not allow of the lapse of sufficient time following the Olympia show of last September. Herr Adolf Prinzhorn, of the German rubber industry, and who is now in the Far East, has expressed the opinion over there that a rubber show in London next year would be interfered with by the international exhibition to be held in Brussels during the same year. This view is shared by the Ceylon newspapers, which express the opinion that it is doubtful if the planters, commercial bodies, and governments of Ceylon and Malaya would support a distinctively rubber exhibition next year as liberally as in 1908. Walther Freudenberg, a merchant of Bremen, some time resident in Colombo, has published a suggestion that the attendance at the Brussels exhibition will be large, and probably embrace everybody on the Continent interested in rubber. It is understood that efforts will be made at Brussels to have the agricultural department up to date, and the next international agricultural congress will be held at Brussels at the same time as the exhibition.



GUTTA-PERCHA PLANTS IN A NURSERY

Gutta-Percha Planting in Java.

THE importance, to the world of commerce, of the work that is being done in Java in cultivating gutta-percha can hardly be overestimated. Indeed, until the writer personally met Dr. W. R. Tromp de Haas, the superintendent of the government gutta plantations in Java, and went over the whole subject step by step, he had but a vague idea of the subject.

To begin with, only three of the many gutta-producing trees produce gum fit for cable insulation, and at the same time adapted for profitable propagation. Botanically, they are all species of the genus *Palaquium*, being respectively *P. oblongifolium*, *P. Bornéense*, and *P. gutta*. (This genus, by the way, is better known to English readers as *Dichopsis*.) The species referred to grow chiefly in the Dutch possessions in Java, Sumatra, and Borneo. The natives, whom it is impossible to control, always destroy the tree when extracting the gum. Hence the supply from wild sources is sure to cease ere long. Then, too, as the tree matures slowly, not reaching a tapable size under fifteen years, planters are not interested in it.

As far back as 1856 a small plantation of gutta-percha trees was started in Banjoemas, Java, but it was not until 1885 that Professor Treub really laid the foundation for work on a large scale by starting the plantation at Tjipetir, on the same island. Then, in 1900, when it was decided to do the work on a large scale, there was at hand an abundance of seed. As the seed perish within four weeks after maturity, and as the bats carry off much of the fruit, which they consume on the wing, the difficulties in getting sufficient fresh seed are obvious.

The time will come, however, when every mile of the 247,888 miles or more, of submarine cable now existing, must be renewed, to say nothing of the need for new cable lines. And in view of this the Dutch government took hold of the problem in a manner that assures its solution.

The great plantation at Tjipetir is situated in a healthy country in the uplands not far from Buitenzorg. The rainfall is abundant, the soil good, and cheap labor plentiful. The seeds are first planted in nurseries. When about a year old they are taken up, the tap root and young stem is shortened and they are planted about 4 feet apart. After the third year the plants have closed up so that they need thinning out.

Almost from the first Dr. Tromp de Haas planned to make use of the leaf and the bark of the plants that were destroyed in thinning. He even went further and extracted gutta from the fallen leaves that littered the ground in the older plantings. All of this extraction is by chemical means, and the product is not the green gutta once on the market, but a high-grade gutta as good as the best. This will be seen to be practical when it is remembered that the bark contains 5 per cent. of gutta-percha (made up of 85 per cent. gutta and 15 per cent. resinous matter) and fresh leaves contain 10 per cent. of gutta-percha (made up of 90 per cent. gutta and 10 per cent. resinous matter). The yield from fallen leaves is smaller, but worth considering.

In this manner the plantation begins to produce when the trees are three years old. By pruning and thinning they have got for the third year about 890 kilograms [=1958 pounds of fresh



GUTTA-PERCHA PLANTS 4 YEARS OLD AT PANUNDANGAN

leaf to the acre, and the year following 2,744 kilos [=6,037 pounds] of fresh leaf. From the older trees they found that the fallen leaves amounted to about 25 kilos [=55 pounds] a tree. These figures are of course only approximate, as the experiments are still going on, but they are successful and show



DR. W. R. TROMP DE HAAS.

[Director of the government gutta-percha estate, Tjipetir, Java.]

wonderful skill, forethought, and thoroughness. Beyond all this the almond-shaped seed has been found to produce a vegetable fat with a high melting point which can be used in the arts. It is planned that the real tapping of trees shall begin in 1915. The planting now embraces 2,240 acres, and the estimate is made that it will produce 11 kilos of dry gutta-percha per acre, or a total of 26,840 kilos [59,048 pounds] a year.

The amount of

gutta-percha which has gone into commercial use during the last half century is evidence that a tremendous number of trees yielding this gum existed at the time when the material first came to the notice of manufacturers, but just as the largest bank account will some time disappear if constantly drawn upon without any additions being made to it, the native gutta-percha resources in the regions which formerly supplied the world's principal needs for this material have become well nigh exhausted. It is almost impossible now to find a native specimen of the best gutta-percha species. The practicability from a scientific standpoint of producing gutta-percha under cultivation having been established, the owners of private capital naturally hesitated to undertake planting, on account of the supposed length of time which would be requisite for returns, since the gutta-percha trees felled by the collectors were commonly supposed to be a century old.

A well established government, however, such as that in the Dutch colonies, accustomed to making investments for the future as well as for the present, and particularly investments not expected to yield direct dividends, can well afford to finance such an enterprise as planting gutta-percha, regardless of the length of time which must elapse before the trees become productive. There is all the more reason for the Dutch government to

undertake this work in the fact that gutta-percha trees occur naturally over so small an area, and that embraced principally in the Dutch possessions. There is now being laid a cable, insulated with gutta-percha, between Germany and Brazil—to be one of the longest cables in the world—and there is no indication that the age of cable building is passing. Ultimately, at the present rate of consumption, there will be no forest gutta-percha, and all the activity of the Dutch government and such private enterprise as it may inspire can hardly lead to overproduction of this important material when the world's need for it becomes acute.

It is true that gutta-percha trees under cultivation may mature at an earlier age than where they are scattered in forests, just as has proved true of *Hevea* rubber in Ceylon and Malaya. The fact is also important that science has demonstrated the possibility of obtaining gutta-percha from young trees. The most important substitute for gutta-percha yet known is balata, of which important native resources still exist, and in connection with which some facts are given in a brief article which follows.

MORE BALATA FROM BRITISH GUIANA.

THE collection of balata in British Guiana is coming under a somewhat changed control. The Balata and Rubber Corporation, Limited, registered in London December 2, 1908, with an authorized capital of £160,000 [= \$778,640] to acquire lands in British Guiana and elsewhere, and to deal in balata and india-rubber, have taken over the concessions of The British Guiana Rubber Corporation, Limited, incorporated in 1906, and various other balata concessions in the colony. Colonel Link, who was representative in British Guiana of the older company, has been appointed general manager of the new. The collection of balata in the colony has been increasing steadily of late, and doubtless the export will become still larger under the more systematic management, by a large controlling company, of a business which hitherto has been carried on always under numerous difficulties.

The exports for the calendar year 1908 was 1,124,955 pounds, compared to 991,280 pounds for the previous year. The exports, with values, for five fiscal years (to March 31) have been:

	Pounds.	Value.
In 1903-'04.....	531,399	£216,805
In 1904-'05.....	501,509	182,607
In 1905-'06.....	550,691	193,495
In 1906-'07.....	634,242	240,510
In 1907-'08.....	973,260	368,538



CULTIVATED GUTTA-PERCHA TREES AT TJIPETIR.
[*Palaquium oblongifolium*; age 22½ years.]

The British as Pioneers in Rubber.

[At the latest regular dinner of the Victorian Club, the leading British club of New England, given on the evening of February 11, at the house of the City Club, Boston, the guest of honor was Mr. Henry C. Pearson, the Editor of THE INDIA RUBBER WORLD, who delivered an illustrated lecture on "The Briton in India-rubber, as Planter and Manufacturer." The paragraphs which follow formed the introduction to the further remarks which the speaker made, descriptive of the views shown, mainly of rubber plantation scenes in Ceylon and British Malaya.]

WHATEVER may be the claims of other nations, it is an historic fact that the beginnings of india-rubber manufacture were British, and they are not so far back but what they may be easily discovered and valued.

One hundred years ago the industrial world possessed steel, copper, lead, the precious metals, cotton, silk, and wool—in fact, all of the great staples in use to-day with the exception of india-rubber. Nor at that time was there the slightest fore-knowledge that a new product combining most of their valuable qualities, with added and unthought of values of its own, was one day to be discovered. Indeed, the imagination of chemist, physicist or manufacturer could hardly forecast a semi-metal of vegetable origin, organic and yet inorganic, that could be made as hard as iron or soft as the surface of an infant's cheek, plastic, resilient, waterproof, unaffected by acids or alkalis, a product indifferent to cold or heat, able to take on any color, shape or texture, and in the end to become an integral part of every great industry, an adjunct to every profession, and a necessity to almost every individual in the civilized world. One hundred years ago this was not even a dream.

To be sure Priestly, a worthy Briton, had shown samples of a curious gum that came from tropical trees. Some enterprising stationer had sold small cubes of it for erasing pencil marks, which Englishmen named "indian rubbers." Later the material came to be called "india-rubber," a name that the whole world has adopted and than which there is none better.

Prior to this, inventive genius had in a misty way sought to make use of the gum. Indeed, as far back as 1627 appears in old-fashioned English a patent by John Wolfen for waterproofing skins and fabrics by a secret process.

It was not until about 1819, however, that the real beginning was made. At that time there lived in England a distinguished chemist, Charles Macintosh, F. R. S., who had been wonderfully successful in adding to the wealth of his native land by practical discoveries in connection with every day industries. The list of his accomplishments in connection with iron and steel, colors, and particularly the treatment of textiles, is indeed a long one.

Just one item may be permitted here as showing how great was his success. He produced a process for the bleaching of cotton and linen which was revolutionary and which his biographer, writing in 1846, estimated had saved to British manufacturers more than £400,000,000 sterling, or \$2,000,000,000.

His particular faculty seemed to be a thrifty desire to utilize waste products. He therefore seized upon the waste from the gas works, produced coal tar naphtha, and suggested its use as a solvent for india-rubber. Further than this, in 1822 he patented a process for manufacturing a waterproof material consisting of two fabrics with a layer of rubber between them. The result is now known as macintosh (or mackintosh) coats, and are used by the million the world over to-day. A Scotchman by birth, he established himself in Glasgow, but later associating himself with the Birleys, a wealthy and progressive family in Manchester, laid the foundations for the great house of Charles Macintosh & Co., Limited, the pioneers of the world in rubber manufacture, and to-day one of the great and successful companies.

At the same time there entered into the field Thomas Hancock, pioneer of the type of practical experimenter by whom the great problems of the rubber business have been solved, rather than by trained chemist. He, to be sure, began his experiments in 1819, but it was not until 1820 that he took out his first patent, and it was sometime before he really produced merchantable articles. Just as Macintosh discovered a basic process for making double textured goods, so he discovered processes and invented machines for the treatment of the gum on a large scale, and in time he and Macintosh came together in an arrangement for joint manufacture.

In spite of the fact that vulcanization was not dreamed of then, and that india-rubber stiffened and cracked under cold and often got very sticky in hot weather, a really large business was built up. Waterproof clothing, life preservers, pontoons and elastic goods, cloth covered, were produced and the business was most profitable.

It was not until 1842, however, that vulcanization suggested itself. A Mr. Brockedon, who got Hancock to make rubber stoppers for him, was continually complaining that extreme cold rendered them as hard as stone, and the inventor was trying in every way to overcome this. With this in mind you can imagine with what interest he received a small piece of india-rubber from the hands of an American promoter who had a secret process to sell of which he would say very little. In his examination of this sample, Hancock detected the odor of sulphur. He at once began experimenting with that substance in connection with india-rubber, and after a time, by melting sulphur and immersing rubber in it until it had absorbed a certain amount of that metal, and then baking it, he effected what he called a "change." At this juncture Brockedon came forward and called this process "vulcanization"—another name that the world has accepted.

To take our eyes from Great Britain a moment and look over the state of the art in the rest of the world is most informing. Charles Goodyear, in the United States, an experimenter like Hancock, had after innumerable trials, and taking advantage of Hayward's suggestion for the use of sulphur, found that india-rubber and sulphur baked, or vulcanized, formed a wonderful and new material. Van Guens, in Holland, and Lüdersdorf, in Germany, also experimenters, were apparently very near the same sort of discoveries; France had trained chemists at work. In other words, the thought of individuals dealing with india-rubber in various parts of the world had reached nearly the same point, and had any three of the gentlemen failed, it is probable that a fourth would have succeeded.

I would not for a moment minimize the value of suggestion. The fact that Goodyear saw in Hayward's idea something that he, with a broader experience and more intimate knowledge of rubber could amplify and make more successful, does not in the slightest dim his glory as the American inventor of the process of vulcanization. Nor does the frank statement of Thomas Hancock that the sulphur suggestion came to him from an unknown American in any way minimize the value of his work.

No one accomplishes anything or gets anywhere without a great following of suggesters who have contributed nothing but misty ideas which they alone value, and because of which they try to share the glory of those who really do the work. It may be heterodox, but I have always believed that the primal sin of Satan was that he laid claim to the creation of the material universe through suggestion.

With sulphur vulcanization an accomplished fact, and a wonderful elastic semi-metal in the place of a valuable yet rather dis-

appointing vegetable product, the arts and industries found thousands of undreamed of uses for the new product. New factories started, old ones enlarged, markets expanded until to-day such large industrial organizations as Charles Macintosh & Co., William Warne & Co., The North British Rubber Co., and scores of others attest the greatness of the British rubber industry.

For a long time the British rubber manufacturers were content to depend upon the wild sources of rubber for their constantly increasing supplies. With their great merchant marine, rubber for the manufacturers of the world was brought to London and Liverpool, and they were the world's brokers in the commodity. Their operations in the Amazonian port, where most of the rubber and the best came from, were very large. There came a time, however, when Germany, grown strong commercially, fought for supremacy in that field, established banks, subsidized steamship lines, and sent trained men who explored every river and set back to headquarters voluminous reports on everything pertaining to rubber. No doubt both of these great powers often considered the outcome could they but control the vast forest areas from which the rubber came.

It was just here, however, that the commercial imagination of the Englishmen, trained to grapple with great world problems and tropical enterprises, shone forth most brilliantly. It was rubber they wanted, not more territory, and with a change of base that was masterly they shifted from the Amazon to their own great possessions in the Far East. Here they established a base with soil and climate just right. With the cheapest and most abundant labor at their doors, they chose a position apparently impregnable, where the battle of supremacy in crude rubber is to be fought and won.

To-day there flourish in these regions more "Pará" rubber trees than are tapped to supply the annual Amazonian crop. Already, although the plantations are young, they produce one-seventeenth as much as come down the mighty South American river. Five or ten years from now, with these great plantations in full bearing, together with others being installed, it would seem that the fine Pará rubber of the world's market will be grown on British soil, and be the result of British progressiveness and forethought.

Mr. ELSTON E. WADBROOK, the president of the Victorian Club, who occupied the chair, proved himself a rarely happy and capable presiding officer. At the conclusion of the lecture he briefly sketched rubber trade conditions the world over, and added some interesting personal experiences in the Amazon country, where he spent several years. Mr. Wadbrook, by the way, is engaged in an important way in the crude rubber trade.

RUBBER IN HUNTING CLOTHING.

THE making of hunting clothing in the United States has become a very important line of business, to which some large houses are now devoted exclusively. Not only is the home demand for these goods on the increase, but American hunting goods are now exported to Mexico, Canada, Japan, Great Britain, Holland, South Africa and elsewhere. An extensive concern in this line is the Upthegrove Sporting Goods Co. (Valparaiso, Indiana), whose president, Mr. Jesse E. Foust, in commenting on waterproof clothing in general, had the following to say [according to *The Sporting Goods Dealer*]:

"Some concerns claim to make a waterproof material by taking any kind of light cloth and subjecting it to a patent coating process, but it can't be done. It is impossible to treat cloth in that manner and make it rain proof. No coat will be waterproof that does not have rubber in it. No other material can be used to take the place of the rubber, and to be waterproof the material must have the proper weight and thickness. To get all this without producing a stiff, unwieldy material is not easy, but we succeeded with our rubber cemented cloth."

R. M. HOWISON.

THERE are many Americans in London, and many American firms represented both by Americans and Englishmen. It is not often, however, that one man represents half a dozen good concerns, five of which are rubber manufacturers. The firm of Howison & Co., Limited, which is very largely R. M. Howison, and is particularly in evidence at London's industrial exhibitions, represent in rubber the Pennsylvania Rubber Co., Davol Rubber Co., Seamless Rubber Co., Faultless Rubber Co., and Morgan & Wright.

The man who has rounded up these concerns and who



R. M. HOWISON.

markets their goods so successfully was born in Darlington, England, the son of a physician of the old school. He believed in laying the foundation of a career by hard work poorly paid, and so put his boy at an early age as apprentice to a firm of merchants in Dundee, Scotland, at a salary of \$50 a year. The hours were long and the work hard, but young Howison was ambitious and the first day of his fourth year the firm complimented

him, took a year off his time, and made him a junior clerk at \$200 a year. Hard work and overtraining, however, had affected the youngster's health, and he was ordered on a voyage to Australia, the firm paying for his passage. One hundred and four days on a sailing vessel landed him in Melbourne in perfect health. He found a position at once in a metal importer and government contractor's office in Sydney and a month later was promoted to the business management of their works. A little over a year later he was made assistant paymaster on a large railroad construction contract.

When this contract was finished he decided to go back to England and started in London in Mincing lane as market clerk, handling coffee, sugar, spices, and rubber. Then he secured for his firm the London agency for Messrs. Sgal & Co. Two years later he returned to Sydney, built up a business in engineers' supplies which he sold out, and returned to Liverpool as manager for Sgal & Co. In 1895 Mr. Howison came to the United States and opened an office on Kilby street, Boston, representing Sgal & Co. in the sale of crude rubber. In 1897 he took a position as purchaser of rubber for the Hartford Rubber Works Co. At the end of that year he was appointed managing director of the Single Tube Tire Co., London, which controlled for Europe the bicycle tire interests of the Hartford Rubber Works Co., The B. F. Goodrich Co., and the Boston Woven Hose and Rubber Co.

The Single Tube Tire Co. eventually came into the possession of The B. F. Goodrich Co., with Mr. Howison as European manager for that and all of their goods. In 1901 Mr. Howison started in business for himself as wholesale merchant and importer of American goods. Since then his business has largely increased. He has visited the United States 16 times, and he is perhaps as well known as any general marketer of rubber goods.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

NOW that a list of the names of those comprising this committee has been published, it would have been interesting to have had fuller details as to the terms of reference—to use a parliamentary expression. To say that the object of the committee is to advise on standardizing chemical and mechanical

INTERNATIONAL TESTING COMMITTEE.

tests used in the rubber trade is not sufficiently illuminating as to the full scope of the work to be undertaken.

Presumably, however, one object at any rate to be achieved is to agree upon the exact lines of procedure to be followed in the case of certain ordinary tests, such as the determination of resins, substitutes, and sulphur in rubber goods. To this extent the committee will be following on established lines of work of this sort having been undertaken in connection with agricultural and other products. Previously, however, to the best of my knowledge, the members of such advisory committees have all been trained chemists, whereas in this case it appears that any manufacturer who wishes to join the committee will have facilities afforded for doing so. This is stated to be the case as far as British manufacturers are concerned, and presumably it applies also to those of other countries whose chemists are taking part. The advisory committee list of the Olympia Rubber Exhibition rapidly assumed an imposing length, though only a few of the names were prominent in any way with the proceedings. There seems likewise a possibility that owing to the new brotherhood which has been fostered by plantation interest we shall see the new International Committee considerably swollen before any real work commences. Of course the manufacturers can give valuable information to the various secretaries and botanists on the committee as to how rubber goods are constituted, especially as they are all more or less familiar with the adulterants used by their competitors. Otherwise I don't quite see where the manufacturers come in—that is, those who have not had any chemical training. One of the main difficulties which arises in my mind as to this standardizing of chemical tests is the fact that there are practically no standards of rubber now that the admiralty authorities have substituted the term "best rubber" for Pará rubber. In the case of food products it is different, and definite standards can be referred to. In rubber goods there may be certain variations which may affect the accuracy of any particular standardized test. If there is not this point to fall back upon an unscrupulous manufacturer could engage a chemist to show him how to render the test inefficient. To take an instance from food products, a certain quite reliable method had been worked out for determining the amount of cocoanut oil put into butter and lard by nefarious traders. After the latter had got into trouble they engaged eminent scientific help, with the result that they destroyed the value of the test in the ordinary analyst's hands by a very slight addition of another foreign matter. This case is an important one, and is attracting considerable attention at the present time; it is mentioned here merely as an indication of what might happen in certain cases of rubber analysis, and I have no wish to be drawn into any discussion on the case itself. Another point that seems worthy of reference is the language question. This always complicates the work of an international committee. Judging from the list of names before me it does not appear that any one language would be understood by all—supposing that a general meeting were held, an eventuality which will probably not be realized. Probably there is one, if not more, on the committee who can speak English, French, German, and Dutch, and his services should be in general request. With regard to the personnel I am glad to see that

Dr. Spence, who is now located at University College, Bristol, can find time to give his services. I note the absence of the name of that prolific writer on rubber, Dr. Ditmar, of Austria. With regard to Germany, the list includes the name of Dr. C. W. Thiel, of Hamburg, who I imagine will not be very widely known, as up to the present he has maintained a strict reserve about getting into print. In the course of his experience as chemist at Messrs. F. Reddaway & Co., Limited, Manchester, the Harburg-Vienna company, and the Calmon Works, at Hamburg, he must have accumulated matter with regard to analysis likely to prove of much service, and now that he is a free lance he will doubtless be more communicative.

THE recent editorial in THE INDIA RUBBER WORLD as to the correct classification of jelutong or pontianak is much to the point. It certainly seems undesirable that a substance worth 2 pence per pound and imported in large quantities

JELUTONG.

should not go to swell the statistics of raw imported by any particular country. In my opinion it is at the best only a bastard rubber, which is a useful designation for this and one or two somewhat similar low-grade substances. In a recent legal case it was gravely contended that anything of this sort was rubber; it was only a question of grade. If this is to hold good there is no reason why Pará rubber should not be classed as a low-grade resin, as it undeniably contains a little resin. On the commercial side it is interesting to note how greatly the import of jelutong to America has increased in recent years, the European import showing a much slower rate of increase. I have been asked where it all goes to in America, but this is one of the points on which my knowledge is at fault. From some experiments I have made it is much inferior to resin as a water-proofing material, and as far as I am aware it has not replaced any of the ordinary resins of commerce in any trade applications. I never was enamoured with the proposals to make a rubber from it by extraction of the resinous matters with volatile solvents. This procedure has not only been suggested but has been put into actual practice in England. I believe I am right, however, in saying that the work has been discontinued, as it was not remunerative. Probably large as the present American demand seems to be, the supply from the Straits and Malaya is equal to it, and there is no need to go further afield. Practically the same material, however, is obtainable in a far distant part of the globe. I have recently been investigating the stuff which it was hoped would fetch at least a shilling per pound as rubber if it was cured by some of the advertised up-to-date methods. I was unable to hold out any encouragement in this respect, being still as of yore extremely sceptical about the transmutation of raw rubber brands except in the reverse direction to that desired. It would be interesting to know what the rate of profit is for the Eastern producers where the product sells for 2 pence per pound.

A RECENT meeting of the shareholders of this concern was held in order to consider a reconstruction scheme, the accounts for recent working showing a further loss

THE UNITY RUBBER CO., LIMITED.

and increasing the total adverse balance to £8,632. This appears to be another instance, of which there have been several others, where ill luck has dogged the footsteps of a new company founded in the ashes of one which has gone wrong. In a few sentences the history of the premises may be given. The location is Woodley, about eight miles from Manchester, and the main building is an old cotton spinning mill, which was turned into the Hyde Imperial Rubber Co. at the time of the evolution of the Dunlop tire

patent. A prominent partner in the business was Mr. Cresswell, Birmingham interests being also represented. Mr. Cresswell made a good deal of money out of the concern before he left it, and got into financial low water. A new company, called the Hyde Rubber Works, Limited, was then formed, and the premises extended. This company after a year or two got into difficulties and was carried on for some time by a receiver, who about three or four years ago disposed of the property to some capitalists, among whom were Messrs. Mandleberg & Co., Limited, the well-known waterproofers of Pendleton, Manchester. Before the property was taken over a sale by auction of the stock of rubber and chemicals was held, the machinery and plant being taken over by the new tenants, and those attending the sale finding inspection prevented by locked doors. Some time subsequently the concern was floated as a public company under its present title, though from what I gathered from intending subscribers there was nothing very attractive in the prospects for the outside investor. The business carried on was mainly in mechanical rubber goods, which were not manufactured at the Pendleton factory, and the present proposal is to transfer this part of the business also to Pendleton, so as to have the proofing and mechanical departments under one roof, so to speak. The Gee Cross rubber works which were put up to auction about a year ago and withdrawn, are in the same locality, being founded by Mr. Cresswell after he left the Hyde Imperial Company. A mile or two further on at Hyde the proofing business carried on for some years by Messrs. Gotliffe & Co., has been given up, so that this part of Cheshire seems to have fallen upon troublous times as far as the rubber manufacture is concerned.

THIS gentleman, who for some years has had control of the waterproof garment department—that is, the making up of the proofed cloth—at Messrs. Charles Macintosh & Co., Limited, has recently left the firm and taken up a post as representative of Messrs. I. Frankenburg & Sons, Limited. In his late position Mr. Atkinson, who altogether put in nineteen years with Messrs. Macintosh, succeeded Mr. L. C. Clamfett, who had succeeded Mr. S. T. Rowe. The last named also gave up his post to take up an important position at Messrs. Frankenburg, of which firm he subsequently became a partner. The esteem in which Mr. Atkinson was held by the staff under him was testified to by a presentation at a Manchester hotel.

THE robbery and murder outrage at Tottenham by Russian miscreants was concerned with the money drawn to pay the weekly wages at Mr. Schnurmann's reclaiming works. It is not surprising that writers in the press refer to the premises as a rubber works, and the point is of no great importance. One daily paper refers to the long connection of Tottenham with the rubber manufacture, pointing out that the London Caoutchouc Co. was established in 1837 in an extensive building at Tottenham and that it was on the site of the present Schnurmann's works or immediately adjacent. Of course the trade and public associate the rubber manufacture of Tottenham with Messrs. William Warne & Co., Limited, who have long been located there. I don't know the history of the firm, and it occurs to me that possibly they are the successors of the old company mentioned above. It would probably prove of interest to many readers if the firm should enlighten the Editor on this topic.

IN a patent of Degen and Kuth, of Düren, Germany, it is claimed that a solution of vulcanized rubber is obtained by adding iodine to a rubber solution. The proportion mentioned is .4 grams iodine in 100 grams carbon tetrachloride and 4 grams Pará rubber in 100 grams carbon tetrachloride, the mixing being effected in the cold. The solution is stated to lose its stickiness and viscosity on standing, and to be capable of

filtration and sterilization, giving a product useful for surgical purposes. This is by no means the first time that the action of iodine on rubber in solution has been observed, and I believe the present position is that the chemical authorities are by means agreed as to the reaction taking place. This of course need not prevent the patent proving a success until a similar product is obtained by some body other than iodine—an eventuality which I am inclined to believe is by no means remote. With regard to the use of the term vulcanization in this case it seems altogether unjustified, as neither heat nor sulphur enters into the reaction. To talk about a solution of vulcanized rubber which can be filtered would lead to the supposition that something of much greater importance had been effected than is really the case. Iodized rubber seems to me a term which might conveniently be used. It will be noticed that the rubber solution is only of 4 per cent. strength, and is therefore of much greater tenacity than what is usually found in commerce.

USE OF THE WORDS "WIRE" AND "CABLE."

THERE has been and is a continued misunderstanding in the accounting departments of large contracting firms, supply houses, central stations, etc., as to the words "wire" and "cable" [says *Electrical World*]. The line department, for instance, of an electric light company will report that it has on hand so many feet of cable, leaving the purchasing department to guess what is meant or to request more specific information. In order to simplify matters one large company has restricted the use of the word cable to lead-covered conductors used either overhead or underground. The word wire is used to signify all conductors which are not covered with a lead sheath. In making entries for orders on the storehouse and in reporting material used on return work orders, care is taken to specify whether it is wire or cable, giving the insulation and size, such as, for example, 500,000 circ. mil, stranded, weatherproof wire, or No. 6 stranded, rubber-insulated wire. Inasmuch as rubber-insulated wire is sold by the foot, the report is made to state the number of feet of such wire. Weatherproof wire being sold by the pound, the quantity wanted or in stock is given in pounds. The reports or requisitions specify the number of feet of cable on hand or required. By this means all misunderstanding is avoided.

THE British courts have held the word "Diabolo," the name given to a game, of which a top known as a devil forms a part, not to be an invented word, and not to be registrable under the statutes. Diabolo is an old Italian variant for devil and the game to which it has been applied lately is an old game which had been known in other countries under the name devil, or foreign words having the same meaning.



THE "CYCLOPS" PNEUMATIC TIRE.

[A new English design. The air carrying part is built up in sections, each with a nipple at either end, the sections thus being connected into a continuous "tube." The Pneumatic Piston Tyre Co., Limited, London.]

New Status of the Congo Rubber Country.

By Hon. James Gustavus Whiteley.

THE scepter of the Congo has again changed hands. A generation ago the dominion of "Darkest Africa" was divided between cannibal chiefs, "my lord, the Elephant," and other kings of the forest. Then came thirty years of white supremacy, under King Leopold's rule. And now the sovereignty has been formally and officially transferred to the Belgian People, who will henceforth govern through their representatives in Parliament assembled.

This last transformation scene has caused a great deal of interest in the world at large, but is, after all, a matter which chiefly concerns the Belgian nation. The principal changes are changes of domestic administration.

Under King Leopold's rule the Congo Free State was officially an independent Power. Neither the Belgian people nor the Belgian parliament had any voice in the management of it. The headquarters of the Congo government were in Brussels, where three "secretaries general" carried on the three departments of "foreign affairs," "finance," and "interior." These officials were responsible to the King alone. To outward appearances it was an extremely autocratic government, but, practically, it was no more autocratic than the administration of some of the British "crown colonies" in which the governor is, to all intents and purposes, clothed with despotic powers.

Now, all this is to be changed. There has been created a Belgian minister of Colonies, who has taken charge of Congo affairs. He is responsible to the Belgian parliament, and if parliament does not like the way he manages the business, it can easily cause his downfall. Moreover, the colonial budget is subject to the approval of parliament, which thus holds the purse strings and controls the situation. All new laws must be approved by the Belgian legislature, and all new grants of concessions must be submitted to the criticism of parliament. Taking it altogether, there are few colonies in Africa which have such "popular" government, or over which the home parliament has so much direct control.

The question is whether the system will work. The "one man power" of King Leopold's regime was efficient. Will the "two hundred men power" of parliament be equally efficient, or will "too many cooks spoil the broth"? On the whole the prospects seem good, in spite of the croakings of the envious, and also in spite of the fact that Congo concessionary shares are depressed and selling "on the bargain counter."

It is generally admitted that "one man power" is essential in the early years of colonial development. This principle is recognized in the wonderful colonial system of Great Britain. There must be concentration of authority, so as to allow quick and decisive action in dealing with colonial problems. As Count de Lesseps once said: "If there is anything important to do, and there are two of you to do it, there is one too many." Under King Leopold's personal rule in Africa the King was practically his own colonial minister. There was no delay in making the required laws. There was no withholding of funds for necessary expenses of development. As a result, railways were built, roads were made, steamboats were launched on the river, telegraph

lines were put up, government posts and hospitals were built, and schools (run chiefly by the Catholic missions) were subsidized. The whole country was put in such shape that the missionary and the trader could safely enter. This was "going some," considering the savage state of the country when King Leopold took hold of it.

The trader appreciated it, got busy, and made a large bunch of money. Two-thirds of the missionaries appreciated it, and thankfully availed themselves of the opportunity to carry Christianity and civilization to those who sit in darkness. Even the handful of dissatisfied Protestant missionaries, who are nothing if not critical, and who think they can run the country better than anybody else, are reluctantly compelled to admit that there has been wonderful "material development" under King Leopold's rule. If they were logical and honest with themselves, they would be also compelled to admit that the Powers were right

when they declared, at the Brussels conference, that the most efficacious way of civilizing the country is to open it up first. It is safe to say that this result could not have been accomplished so swiftly and so effectively had the Congo, from its infancy, been subject to the deliberation and delays of parliamentary government.

Circumstances are now different. All this preliminary work has been done, and the Belgian people and parliament may now advantageously take a hand in the development of the colony.

The transfer of sovereignty seems to have aroused the colonial spirit in the Belgian nation. The people are beginning to "think imperially" and to prepare seriously to take up the duties and privileges which go with the "white man's burden." Now that the annexation of the Congo is *un fait accompli*, even the anti expansionists are inclined to avoid hampering the new colonial administration, and seem disposed to stand shoulder to shoulder with the rest of their countrymen in defence of the colony against foreign aggression from any source.

A good start has been made under the new regime. Monsieur Renkin has been selected as colonial minister. He is a level-headed man of calm judgment, high ability, and quick decision. He is a man who deals with facts, not with theories. He has done an enormous amount of work in organizing the new colonial department, and in a few weeks he is to sail for the Congo so that he may have knowledge, at first hand, of the country and people whose destinies have been committed to his care.

It is rumored that, if circumstances permit, Prince Albert, the heir to the throne, will also go to the Congo this spring to inspect the colony.

The international relations of the Congo to the other Powers are, of course, affected by the transfer of sovereignty, but the changes are more in form than in reality. The Independent State of the Congo has gone out of business, but all its international obligations and treaties have been assumed by the new owners—the Belgian nation.

Edinboro, Maryland, February 17, 1909.



JAMES GUSTAVUS WHITELEY
[In the uniform of Consul General of the Congo Free State.]

The Obituary Record.

ABNER H. ANGELL.

ABNER HARRIS ANGELL was born December 17, 1832, in Providence, Rhode Island, being the son of Jonathan Sprague Angell and Amy Angell Harris. The Angell family were one of the first five settling on the site of the present city of Providence. Mr. Angell was educated in Providence, graduating from the high school, and going into business first in that city. Just before the civil war he removed to Baltimore, where he engaged in the oil trade. At the close of the war he married Kate Medairy, of that city, and they moved to New York. Mr. Angell became a member of the New York Stock Exchange, and afterward joined The H. F. Taintor Manufacturing Co., twenty-eight years ago, which business, with the aid of his energy and ability, grew to be the first of its line in the United States. Up to about eight months ago he was most active in business, but owing to a complication of diseases he finally retired. On February 4 he suddenly and painlessly passed from life, his mind being clear until the end. He is survived by a sister, Mrs. William Armour, of Providence, and three children, Walter H., Isabel M., and Florence M. His wife died while the children were small. Funeral services were held at the Angell residence, No. 257 West Eighty-fourth street, New York, on Sunday, February 7, the Rev. Percy S. Grant, of the Church of the Ascension (Episcopal), officiating. Many beautiful floral tributes were sent, and the house overflowed with the presence of sincere friends, who paid their respects to his beautiful, gentle, courteous nature. The interment occurred on Monday morning, February 8, in Kensico cemetery, with only the immediate family present, the Rev. Walter E. C. Smith, also of the Church of the Ascension, having charge of the service.

For many years Mr. Angell was in close touch with all of the leading rubber manufacturers in the United States. Aside from his business association with them, he was of such magnetic presence and was so well informed in every way, and was so friendly and human in his sympathies, that he was the personal friend of most of them, as well as the business acquaintance. The death of Henry F. Taintor, president of The H. F. Taintor Manufacturing Co., with whom Mr. Angell was so long associated, was reported in THE INDIA RUBBER WORLD as recently as its issue of December 1 last.

HENRY W. PEABODY.

IN the death of HENRY W. PEABODY, senior member of the firm of Henry W. Peabody & Co. (Boston), the commercial interests of the world lose one who was a power for many years. His chief interests centered about the great exporting and importing house that he established in 1866. This in a measure brought him in touch with the rubber trade. It was, however, in connection with the Adamanta Manufacturing Co. that he really became identified with it. This company operated for some years under German patents for the production of rubber-like plastics and the treatment of resins for industrial purposes. Personally, Mr. Peabody had a striking personality. He was kindly, dignified, self-possessed, and able. He knew the business world intimately, and was an authority on finance. Prior to

the establishment of THE INDIA RUBBER WORLD the Editor of this paper was associated with him in business for some years, and testifies to his sterling character, his ability, and his wonderful breadth of view, both commercial and humanitarian. Of the best type of New England business pioneer, his loss will be severely felt in that one of the great, successful, conscientious merchants has passed.

CHARLES E. FARGO.

CHARLES EVELYN FARGO, who died at his home in Dallas, Texas, January 10, 1909, was born at Great Barrington, Massachusetts, February 27, 1850. Six years later his father, the late Charles H. Fargo, removed to Chicago, where he laid the foundation of a great business in shoe manufacturing and jobbing, which from 1870 was conducted under the style of C. H. Fargo & Co. In time Charles E. Fargo became a partner, and upon the death of his father, in 1892, succeeded to the office of president. The house of Fargo became very large distributors of rubber footwear in the West—probably at one time the largest in that region. When the L. B. Smith Rubber Co., of Setauket, Long Island, introduced to the trade the then new "thirds" in rubber footwear, C. H. Fargo & Co. took on their sale extensively, and when the latter house became temporarily embarrassed, in 1888, the Smith company held claims against them of \$275,000. Later the house again became embarrassed, confessing judgment on August 6, 1895, in favor of the United States Rubber Co. and a subsidiary company, on notes for \$170,000, giving rise to litigation which continued for five years, the Chicago house ultimately being liquidated. Charles E. Fargo was later successful in another field, and left a family well provided for and a host of staunch friends. His remains were interred in Chicago.

WILLIAM GOW.

WILLIAM GOW, senior partner in the firm of Messrs. Gow, Wilson & Stanton, Limited, of London, died in the latter part of December, in his sixty-fourth year.

Mr. Gow went from England to Assam in 1862, and, returning to London in 1879, he organized the business in the tea trade which later was incorporated under the style given above. In 1887 he went to Ceylon, where he resided four years, engaged in the tea interest. Mr. Gow's firm has taken a lively interest in the development of plantation rubber from the beginning, and their reports on plantation rubber prices and on plantation shares have been widely regarded as authoritative. Mr. Gow was a director in three important rubber plantation companies, in addition to the Caledonian Ceylon Tea Estates, Limited, all of which have been successful.

OBITUARY NOTES.

HERR JACQUES LUTZ, director of the Deutschen Michelin-Pneumatic-Aktiengesellschaft, at Frankfort o/M.—the German branch of Michelin & Co., the French tire firm—died on January 18.

THE death is reported in England, on December 28, of ROBERT THOMSON, formerly head of the Jamaica botanical department. He had recently devoted considerable attention to rubber production, and written reports of value on several little known species.



THE LATE ABNER HARRIS ANGELL.

American and European Factory Policy.

IT would be difficult to specify which one of a half dozen rubber factories in the world produces the greatest variety of goods. The two great factories at Milan and St. Petersburg naturally have a wide range of products, for the reason that they were in their inception in the nature of monopolies, with certain government concessions, and called upon to supply any articles in rubber for which there might be a demand in their respective countries. Other factories in this branch have grown up in Italy and Russia, but not on such a scale as to compete seriously with the original factory in each country.

In other countries now important in the rubber industry no such condition has obtained. In the United States, for example, the rubber manufacture first came into existence in a practical way under the patents of Charles Goodyear, who granted licenses for the use of his vulcanization discovery—one or more factories for footwear, another each for belting, waterproof clothing, gloves, elastic bands, and so on. One important American rubber manufacturer made a beginning by obtaining a license from Goodyear to make doorsprings alone. Similarly, when hard rubber came into existence, the Goodyear family licensed a limited number of persons to use their patent. The result of this policy was to divide the rubber industry in America into many branches, each entirely independent, so that large factories grew up, employing thousands of workers specialized to the extent that, while one might spend a life time in a footwear factory, the skill he acquired would hardly avail him in a factory where rubber boots and shoes were not produced. An illustration is the factory which was developed in the rubber footwear line near Boston, under the management of the late Hon. Elisha S. Converse, who lived until the corporation of which he was treasurer disbursed more than \$29,000,000 in dividends, though the factory never produced a commercial article other than boots and shoes. The Goodyear patents, of course, expired long ago, but the effect of the Goodyear licensing policy is still potent in the industry.

In Great Britain, Germany and France, where the rubber industry was developed under different auspices, the conditions of specialization here referred to never existed, so that while there are factories in each of the countries named confining their production within narrow lines, it is more usual for any establishment of importance in the industry to turn out a very wide range of goods—mechanicals, clothing, surgical, tires, hard rubber, and so on.

The question has been much discussed as to the comparative economy of the two systems, but what may be accepted as a straw showing the prevailing current is the appearance of a catalogue entitled "Automobile Tires of the United States Rubber Co.," which company was described in its prospectus, issued October 27, 1892, as "a corporation organized - - - for the manufacture principally of rubber boots and shoes." Throughout the prospectus mentioned there was no reference to any other form of intended rubber goods production; the initial list of directors embraced the leaders in the rubber shoe industry, and included none interested in any other form of rubber goods production except incidentally, as in the case of two or three companies which made some waterproofed goods or druggists' sundries. The United States Rubber Co. has since figured in the public mind as a producer of rubber footwear, and on the Stock Exchange quotations on its shares have been influenced invariably by such weather conditions as were likely to affect the popular demand for boots and shoes.

Since the beginning until now the United States Rubber Co., while distributing annually many hundreds of thousands of descriptive catalogues and price lists of their products, have seldom

attached their name to a list of any other form of rubber goods. The appearance of a tire catalogue under the name of this company, therefore, seems worth noting, and it is not unlikely to be followed by lists of goods in other lines from the same source. One indication in this direction may be found in the fact that several branch houses of this important concern, incorporated originally as the "Chicago Rubber Shoe Co.," "Omaha Rubber Shoe Co.," and the like, lately have undergone a change of firm style through the omission of the word "Shoe," while the houses referred to are now advertising "everything in rubber."

The acquisition by the United States Rubber Co. within the past year or two of the control of the \$25,000,000 Rubber Goods Manufacturing Co. makes the former company practically a manufacturer of mechanical rubber goods of every type, tires to a very important extent, waterproof clothing, druggists' sundries, and insulated wire. The benefit to the shareholders of the United States company is that whereas dividends formerly were contingent upon a sufficient snowfall to induce the public to buy rubber footwear freely, their organization to-day is in position to market other goods on a large scale, thus offsetting a dull season in the footwear trade such as is bound now and then to occur in the United States.

It might be suggested that during such a season as the present, during the early part of which there was so little snow, the same condition has largely favored motoring, and to that extent promoted a demand for tires. The United States Rubber Co. thus approaches the conditions of general rubber goods production hitherto exemplified chiefly in Europe, though upon a somewhat different basis. That is, the rubber footwear production continues to be specialized in certain factories, including that already mentioned in connection with the late Mr. Converse, while certain other plants are devoted to tires alone, and still others to mechanical goods, without any attention to tires. After all, it would seem that these distinctions are only a matter of degree.

One large corporation controls in a broad way the production of a number of factories, each turning out a distinct class of goods, leaving to the trained experts in charge of each factory the making of the particular kind of goods designated. The principle is the same as in the management of such a concern as The B. F. Goodrich Co., with its single plant of a score or more of distinct departments, ranging from rubber toys to automobile tires, each in charge of a manager who is quite independent of any other branch of the factory. The Goodrich house is based more upon the lines existing in the principal British and Continental factories in Europe, and it would seem that their plan has at least one advantage over that of the United States Rubber Co., who control widely separated factories, each highly specialized. That is to say, where the total production of one company is confined to a single establishment, there is possible a certain interchange of workers, whereby those employed in a given branch in dull times may be transferred to another branch where the demand for goods is unusually large.

To-day if a rubber shoe factory planned to turn out 50,000 pairs per day should be closed on account of a temporary decreased demand, all hands would have to cease work. But at least those employed in treating rubber in the primary processes might be employed with equal efficiency in preparing rubber for other goods if these goods were being produced on the same premises, instead of as now in factories a hundred miles distant.

There was a time when the printed trade list of a rubber works, in whatever country, was a simple affair—hardly more than a leaflet being required in many cases to advise the

trade of what a concern had to offer. Nowadays a complete list of products of a single factory, even in concise style, may fill a heavy tome if comprised within a single cover. Hence the present-day practice of issuing separate lists for different classes of goods, each intended for the class of dealers or consumers most likely to be interested.

There is a company in England with an exceptionally long list of products—The India Rubber, Gutta Percha and Telegraph Works Co., Limited—but their output includes the whole range of electrical products. They are active in the same field as the General Electric Co., of the United States, or the Allgemeine Elektrizitäts-Gesellschaft, of Germany, in addition to manufacturing rubber goods so extensively. The English company named will estimate with equal readiness on electric bell pushes—say at 7s. 6d. or less per dozen, with discount from list—or on an ocean cable to cost millions. They make dynamos, motors, telegraph and telephone outfits, electric lighting supplies, and so on. But they are none the less extensive makers of general india-rubber and gutta-percha goods, issuing separate lists for lawn tennis goods, rubber tiling, cycle tires, water bottles, waterproof fabrics, air cushions, confectionery molds, belting, bottle stoppers, motor tires, golf balls—but there is not room here for everything. It may be noted, however, that at the company's Silvertown works are made many articles in hard rubber—a branch sometimes referred to as non existent in England, probably for the reason that large works devoted to hard rubber alone are not to be found there, as in the United States.

There comes to notice just now a collection bound together, of the latest Price Lists of Charles Macintosh & Co., Limited, of Manchester, England. They are engaged in the electrical branch only to the extent of insulating wires, but the range of their rubber goods products apparently is as wide as that of any other house in the world. They manufacture hard rubber goods, in addition to soft rubber lines, to which 24 different catalogues in this collection are devoted, besides which others are mentioned as covered by special catalogues. It is a long range from heel pads to such tiling as this company supplied for the new steamships *Lusitania* and *Mauretania*, from cut sheet finger stalls to 10-ply machinery belting—but the Macintosh firm list them all.

Nothing has been written here with a view to giving more prominence to the companies named than to certain others, but the article has been suggested by some trade publications latest to hand.

TO PROMOTE FOREIGN TRADE.

A NOTABLE address was delivered by the Hon. Oscar S. Straus, L.H.D., LL.D., secretary of commerce and labor in President Roosevelt's cabinet—a man familiar with commercial affairs at home and abroad and with a record as a successful diplomat—at the first annual meeting of the National Council of Commerce which has been formed to promote coöperation between certain departments of the government and the commercial bodies of the country, with a view particularly to the extension of American trade abroad.

"The commercial organizations in Great Britain, Germany, and France, our chief commercial rivals," said the speaker, "have found it not only advantageous, but necessary, to coöperate effectively with their respective governmental agencies, and on the other side the governments of those countries have found it most helpful, in order to advance their commerce, to coöperate with and be in constant touch with their commercial organizations. The result is, in such countries, when the government makes a move for the purpose of protecting commercial interests, the officials are in advance fully advised what the various commercial interests require and demand. How can you expect your law makers, your senators and representatives in Congress, who come from widely detached and circumscribed districts, to have an adequate understanding of the varied commercial in-

terests of this great country and of all its different industries unless there is some sufficiently representative agency qualified to advise with them and with the departments of the government having to do with commerce as to the requirements of the diversified interests of the country throughout its several sections?

"The purposes to be served by the National Council of Commerce are not for oratory, or for dining, or for well turned resolutions, but for practical everyday work, in order to bring the great commercial interests of this country together so that they can consult, advise and act, and to the end that when these combined bodies speak they will voice the well considered interests of commercial America."

The National Council of Commerce made its start with a membership of 49 bodies, including the National Association of Manufacturers, The American Cotton Manufacturers' Association, and other national or state organizations, among which are those representing these interests: Agricultural implements, cattle raising, clothing, cotton (raw and manufactured), drugs, glass, groceries, hardware, liquors, machine tools, meat packing, milling products, shoes and leather, vehicles, and wine growing. Likewise boards of trade, chambers of commerce, or other like bodies located in the cities of Atlanta, Augusta, Ga., Boston (two), Buffalo, Chicago (two), Cincinnati, Cleveland, Denver, Galveston, Honolulu, Jacksonville, Kansas City, Minneapolis, New Haven, New York (four), Philadelphia, Rochester, St. Louis (two), San Francisco, and Savannah. Besides, the list includes the American Chamber of Commerce in Paris and the American Association of Commerce and Trade in Berlin.

Offices for the Council have been opened in Washington, in the Adams building, No. 1335 F street, N. W., in charge of the secretary, Mr. William R. Corwine, formerly the efficient secretary of the Merchants' Association of New York.

INDIA RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india rubber and gutta percha for the month of December, 1908, and for five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
December, 1908 .	\$125,218	\$104,371	\$325,178	\$554,767
Jan.-November .	1,131,272	1,224,799	3,255,507	5,611,578
Total, 1908 .	\$1,256,490	\$1,329,170	\$3,580,685	\$6,166,345
Total, 1907 .	1,402,373	1,646,880	3,944,080	6,993,333
Total, 1906 .	1,162,751	1,213,196	3,282,659	5,658,606
Total, 1905 .	1,182,761	1,389,226	2,833,511	5,405,498
Total, 1904 .	890,634	1,226,772	2,341,039	4,457,887

Exports of rubber boots and shoes have been, in quantity: 2,209,116 pairs in 1906; 3,161,865 pairs in 1907; 2,440,693 pairs in 1908.

Exports of reclaimed rubber: \$544,135 in 1906; \$598,494 in 1907; \$327,405 in 1908.

IMPORTS INTO THE UNITED STATES.

	1906.	1907.	1908.
India-rubber goods	\$2,389,082	\$2,154,425	\$1,509,629
Gutta-percha goods	240,267	141,535	97,593
Total	\$2,629,349	\$2,295,960	\$1,607,222

TIRE LIFE IN ENGLAND.—Mr. S. F. Page, one of the best known British automobile experts, has accumulated a mass of statistics concerning wear and tear on tires. The results of these tire tests are reduced to ton miles, that is, the number of miles the tires would have run had the weight of the cars been exactly one ton. For a light weight 6 HP. runabout, weighing say 13 cwt., the average life of a tire is computed at 7,000 miles. He estimates further \$5 for each 1,000 miles as the approximate cost of tire for such a car.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED JANUARY 5, 1909.

- N** 908,475. Wheel tire. T. Midgley, Hartford, Conn., and E. Hopkinson, East Orange, N. J.
 908,488. Pneumatic tire. J. L. Newell, South Bend, Ind.
 908,573. Nozzle for syringes and the like. H. A. Kaysan, Cassel, Germany.
 908,925. Manufacture of rubber. [A process of separating resins from rubber by the use of solvents, one of which affects rubber alone and another resins.] M. Wilderman, London, England.
 909,001. Divided wheel rim serving as tire retainer. R. Kronenberg, Ohligs, Germany.
 909,003. Hose coupling. C. E. Lepage, Chicago.
 909,034. Vehicle wheel. C. Stanley, San Francisco, assignor to Economic Safety Automobile Wheel Co., Alameda county, Cal.
 909,093. Nozzle for syringes and the like. H. A. Kaysan, Cassel, Germany.

Design Patent.

- 39,747. Sole of shoes. F. B. McKenna, Providence, R. I., assignor to the Bourn Rubber Co.

Trade Marks.

- The Hartford Rubber Works Co., Hartford, Conn.:
 26,467. The letters *No. 80-H.* For wheel tires.
 26,469. The word *Hartford.* For wheel tires.
 New York Belting and Packing Co., Ltd., New York city:
 28,165. The word *Nahma.* For rubber mats.
 28,166. The letters *N. P. M.* For rubber maps.
 28,170. The word *Ruby.* For rubber packing.
 28,174. The word *Magic.* For rubber packing.
 28,176. The words *Duble Diamond*, enclosed in a diamond-shaped border, superimposed on another. For rubber belting, hose and packing.
 28,181. The words *1846 Para.* For rubber belting and hose.
 28,183. The word *Puritan.* For rubber hose.
 28,185. The words *Test Hose.* For rubber hose.
 28,186. The word *Multiplex*, in a rectangular border. For rubber hose.
 28,188. The word *Safety* on a scroll over the representation of an office safe. For rubber hose.
 28,190. The word *Oxford.* For rubber hose.
 28,191. The word *Tuxedo.* For rubber hose.
 28,192. The words *Spider Hose*, under the representation of a spider, all within a triangle. For rubber hose.
 28,194. The word *Comet*, over the representation of a comet, within an oval-shaped border. For rubber hose.
 28,195. The word *Delta*, in a scalloped-shaped oval border. For rubber hose.
 28,196. The word *Cable.* For rubber hose.
 28,197. The word *Lenox.* For rubber hose.
 28,198. The word *Aetna.* For rubber hose.
 30,107. The representation of a carboy in a box. For rubber belting, hose, and packing.
 The Mechanical Rubber Co., New York city:
 31,115. The word *Palladium*, across the face of a shield. For rubber hose.
 30,119. The representation of an elephant. For rubber belting, hose, and packing.
 Also the following:
 31,635. Fedor Burgman, Dresden, Germany. The representation of a rising sun over a roof. For rubber and other packing.

ISSUED JANUARY 12, 1909.

- 909,131. Hose coupling. J. J. Antic, Allegheny, Pa.
 909,180. Tire. E. T. Greenfield, Kiamesha, N. Y.
 909,181. Process of making tires. *Same.*
 909,200. Hose coupling. B. Morgan, Newport, R. I.
 909,287. Horseshoe pad. J. Dillon, Hackensack, N. J.
 909,368. Wheel tire rim. J. A. Connor, Grogan, Ohio.
 909,475. Metallic tread for pneumatic tires. M. C. St. John, Chicago.
 909,567. Rubber heel. R. T. Elwell, Paterson, N. J.
 909,603. Tile. [Interlocking, for flooring.] A. S. Janin, New York City.
 909,827. Crutch grip. E. H. Seibert, St. Louis, Mo.

Trade Marks.

- 28,182. New York Belting and Packing Co., Ltd., New York city. The word *Dragon.* For rubber belting and hose.
 30,380. Peerless Rubber Mfg. Co., New York city. The word *Perfected*, across a combination of the letters *H.* and *W.* For rubber hose.
 30,381. *Same.* The word *Peerless*, over the representation of a ship under sail. For rubber belting.
 30,861. Howard R. Levick, Philadelphia. The word *Flexo*, in script. For rubber hose.
 30,872. F. P. Kirkendall & Co., Omaha, Neb. The words *Mission Shoe* over, and the words *Rest for the "sole"* under, the representation of a mission or church. For rubber and other footwear.

ISSUED JANUARY 19, 1909.

- 909,662. Single tube pneumatic tire. J. A. Swinehart, Akron, Ohio.
 909,978. Vehicle tire. J. F. Wilmot, Detroit, Mich.
 909,979. Respiratory apparatus. E. E. Zerkle, Chicago.

- 909,992. Outer cover for pneumatic tires. P. L. Desprez, Lyon, France.
 910,009. Vehicle wheel. N. E. Meredith, Indianapolis, Ind.
 910,134. Tire of vehicles. L. Knowles, Providence, R. I.
 910,370. Process of making hollow rubber articles. F. J. Gleason, Walpole, Mass., assignor of one-half to A. T. Baldwin, Buffalo, N. Y.
 910,441. Pneumatic tire. C. E. W. Woodward, Chicopee Falls, Mass.
 910,457. Wheel tire. R. F. Bryant, assignor of one-fourth each to J. F. Harwood and J. H. Wood, all of Bloomington, Ill.

Trade Marks.

- 28,177. New York Belting and Packing Co., Ltd., New York city. The word *Vulcan.* For rubber belting, hose, and packing.
 28,187. *Same.* The initials *R. R. S.* For rubber hose.
 36,108. The Darling Pump and Mfg. Co., Ltd., Williamsport, Pa. The word *Darcova.* For a rubber composition packing for oil well use.

ISSUED JANUARY 26, 1909.

- 910,520. Method of manufacturing solutions of caoutchouc. E. Fischer, Schöneberg, assignor to Siemens & Halske, A.-G., Berlin, Germany.
 910,579. Safety hose coupling for railway air brakes. K. Rath, Szabadka, Austria-Hungary.
 910,612. Vehicle wheel. G. Vinet, Neuilly-sur-Seine, France.
 910,680. Pneumatic pad for harness. J. M. Kelly and F. L. Rankin, Greensburg, Ind.
 910,733. Vehicle wheel rim. E. C. Shaw, Akron, Ohio, assignor to The B. F. Goodrich Co.
 910,735. Machine for mounting hose on mandrels. S. J. Sill, assignor of one-half to H. H. Hewitt, both of Buffalo, N. Y.
 910,770. Resilient flexible conduit. U. S. Armstrong, New Kensington, Pa.
 910,868. Vehicle wheel rim. E. C. Shaw, Akron, Ohio, assignor to The B. F. Goodrich Co.
 910,869. Vehicle wheel rim. *Same.*
 910,884. Scalp sprayer. W. B. Van Eps, Rochester, N. Y.
 910,891. Tubular structure. [Woven fabric, for fire hose and the like.] L. Atwood, assignor of one-fourth to J. M. O. Hewitt, both of Philadelphia.

Trade Marks.

- 28,178. New York Belting and Packing Co., Ltd., New York city. The word *Carbon.* For rubber belting and hose.
 30,114. The Mechanical Rubber Co., New York city. The words *Seamless Tube Hose*, within and outside of two circles forming the outline of a section of hose. For rubber hose.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1907.

*Denotes Patents for American Inventions.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JANUARY 13, 1909.]
 20,528 (1907). Swinging rack for fire hose for interiors of buildings. J. Morris, Eccles.
 20,660 (1907). Pneumatic tire with chain mail cover, outside of which is a rubber or leather tread. C. R. Duggan, Ranchi, India.
 20,729 (1907). Emergency tire other than pneumatic, and means of attaching to the wheel. A. Turnbull, St. Mungo Works, Glasgow.
 20,764 (1907). Collar for waterproof coat for motorists. V. Schneider, Paris.
 20,797 (1907). Inner tube for a pneumatic tire, with ends tapering to a point. T. H. R. Craig, Bray, Ireland.
 20,813 (1907). Method of molding covers of pneumatic tires. R. Milne, and C. A. and R. F. Hutchison, Prestwick, Ayrshire.
 20,892 (1907). Golf ball cover made by twisting a tape of rubber into a strained condition, tying the ends together, and, with the addition of gutta-percha as a binder, molding into a spherical shell. A core of rubber thread wound under tension is used. F. E. Blaisdell, Kensington, and Golf Balls, Ltd., Hammersmith, London.
 20,893 (1907). Portable vulcanizer for pneumatic tire repairs. F. Grover, E. Cornock and Forgrove Machinery Co., Leeds.
 20,961 (1907). Golf ball with striking face including gutta-percha and vulcanized fiber. R. B. Martin and A. Patrick, Edinburgh.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JANUARY 20, 1909.]

- 21,111 (1907). Wheel rim for pneumatic tires. H. Levy and F. P. Elliott, Walthamstow.
 21,112 (1907). Emergency rim for pneumatic tire and means for attachment at the side of disabled rim. *Same.*
 21,280 (1907). Detachable rim for pneumatic tires. H. Edmunds, and Martin D. Rucker, Westminster, London, the latter of whom will be remembered as associated with Ernest Terah Hooley in the promotion of the great Dunlop tire company, several years ago.
 21,310 (1907). Pneumatic tire with non-slipping devices of metal on either side of the tread. J. Dorange and P. Buchillet, Paris.
 21,313 (1907). Compound cord for fabrics for hose pipe and pneumatic tires, made by securing side by side two or more cords of different degrees of extensibility and of the same or different diameters. T. Sloper, Devizes, Wiltshire.
 21,332 (1907). Apparatus for vulcanizing tires or tire tubes, heated electrically by resistances immersed in water or other liquid contained in the apparatus. W. H. Welch and H. Frost & Co., London.

- 21,340 (1907). Golf ball with core of rubber wound thread and gutta-percha cover. J. H. Roger, Glasgow.
- 21,361 (1907). Spring wheel with tire of tread members resting upon a pneumatic cushion enclosed by side plates. L. Heusch, Paris, France.
- 21,443 (1907). Construction of hose pipes. E. L. Curbishley and Gorton Rubber Co., Ltd., Openshaw, Manchester.
- 21,471 (1907). Tire composed of thick bands of leather and rubber resting upon laminated plate springs. A. H. Swinton, London.
- *21,473 (1907). Pneumatic tire with puncture preventing device consisting of hinged metal plate inside the cover. M. M. Mills, Kingsbridge, New York.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JANUARY 27, 1909.]
- 21,700 (1907). Metallic puncture preventing band to fit between the air tube and cover of pneumatic tires. A. Hopkins, Dartford, Kent.
- 21,726 (1907). Circumferentially divided rim for pneumatic tires. S. Z. de Ferranti, Grindleford, Derbyshire.
- 21,772 (1907). Synthetic india-rubber. A. Heinemann, Maida Vale, London.
- *21,809 (1907). Men's garters. G. H. Phelps, Boston, Massachusetts.
- 21,863 (1907). Fabric construction for tire covers. E. Herkner, Oberschöneweide, Berlin, Germany.
- 21,887 (1907). Automatic inflator for motor car tires. G. T. Adams and W. G. Martin, Tonbridge Wells, Kent.
- 21,893 (1907). Heater for dental rubber. C. E. Woodstock, Carlisle.

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

- 393,551 (Aug. 6, 1908). F. Chalmardier. Employment of gelatine in tire repairs.
- 393,590 (Aug. 21). Trigwell. Repairs for tire covers.
- 393,649 (Aug. 25). R. J. Evans. Rubber tire.
- 393,669 (Oct. 31, 1907). Pneumatic tire.
- 393,754 (July 21, 1908). A. G. Chamboniere. Two piece rim for tires.
- 393,767 (Aug. 5). de Launay and la Mothaye. Protector for pneumatic tires.
- 393,831 (Aug. 31). L. Boirault, P. Boucher and M. Dechaume. Wheel with elastic tire.
- 393,841 (Sept. 1). F. Weith. Cover for pneumatic tire.
- 393,849 (Nov. 7, 1907). A. Loiseau. Pneumatic tire.
- 393,857 (Sept. 1, 1908). A. M. MacFarland. Tire.
- 393,865 (Sept. 1). J. L. G. Dykes. Tire.
- 394,007 (Sept. 7). E. Degener-Böning. Elastic tire.
- 394,046 (Nov. 15, 1907). D. Lance. Elastic tire.
- 394,117 (Sept. 11, 1908). G. Middleton. Protector for tires.
- 394,015 (Sept. 7). O. Vogel. Electric storage apparatus.
- 394,198 (Nov. 19, 1907). A. Wolber. Pneumatic tire.
- 394,355 (Sept. 16, 1908). C. G. Rodeck. Wheel tire of steel cables.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villier, Paris, at 50 cents each, postpaid.]

"LANDOLPHIA" ROOT RUBBER.

[FROM THE KEW "BULLETIN," NO. 10, 1908.]

MR. FELIX H. HUNICKE, of the Continental Rubber Co. of America, whose name is well known in connection with the guayule rubber industry of Mexico, has recently visited the neighborhood of the Black River, Stanley Pool District, Congo Free State, and has kindly presented to the Royal Botanic Gardens, Kew, a series of samples illustrating the process which he has evolved for obtaining a good sample of rubber from the bark of the roots of *Landolphia Thollonii*. The roots are cut up into sections from which the bark is removed, and the woody portions are then discarded. The separated bark is then placed in the "Hunicke" machine and ground to powder, with the result that the finely granulated bark falls out and the rubber is left behind. This rubber appears to be practically free from the impurities of pieces of bark which are always to be found in considerable quantity in the rubber as extracted by the natives. The rubber may be sheeted or exported direct in the somewhat granular form in which it is turned out by the process. The rubber is of very good quality, and the yield from the roots is said to be about 10 per cent. As the process is of a simple character, and there is an abundance of water power, the new process seems likely to make a considerable advance in the value of the *Landolphia* root rubber. The value of the *Landolphia* does not end with the rubber, for from the granulated bark a fine, rich, red brown dye is obtained. Mr. Hunicke has presented samples both of the granulated bark and of the dye, and

also specimens of the impure rubber as extracted by the natives, and a herbarium specimen of the leaves and flowers of *Landolphia Thollonii*. [This plant is illustrated in THE INDIA RUBBER WORLD, May 1, 1903—page 201.]

"PALO AMARILLO" AGAIN.

THE enterprise known as the Consolidated Palo Amarillo Rubber Co. [see THE INDIA RUBBER WORLD, February 1, 1909—page 191] continues to attract much attention in the Mexican press. The report generally is that the company has been formed to work under a concession carrying the exclusive right to extract rubber from two wild trees, "Palo amarillo" and "Amate," which thrive in different parts of the republic, and to make rubber goods and by products from the material gained. Work must be in progress on a commercial scale within three years from February 1 last. The company is incorporated in one of the western United States, with \$20,000,000 capital authorized, and the officers are George W. Young, president; Robert H. McCurdy, vice president; and Frederick Kopf, all connected with prominent New York business houses, and William H. Ellis, described as a banker and broker, New York and Mexico City, general manager. These details are supplied to THE INDIA RUBBER WORLD by W. H. Ellis. Further information could not be obtained at the banking office of George W. Young, No. 59 Cedar street, New York.

* * *

THERE is so much interest of late with regard to "Palo amarillo" that the following statement which comes from one of the best equipped chemical laboratories making a specialty of india-rubber, is timely:

"We had some of the latex sent up and the samples we made from the milk of the latex gave us in gum 34 per cent. and resin 6 per cent. The gum gave absolutely no cure and gave no elasticity. We have never been able to find any trace of rubber in the gum, but the gum was a rubber like gum but so sticky that it could not be worked on a mill. It might make a first class fly paper."

NEW GUAYULE RUBBER FACTORIES.

A NEW factory is being erected at Puerto del Carmen, in the state of Coahuila, Mexico, to extract rubber from the guayule plant, by Compañia Guayulera de Torreon, S. A. mentioned in THE INDIA RUBBER WORLD, July 1, 1907 (page 320). The officers are Manuel Garza Aldape, president; Baltazar G. Peña, vice-president and manager; and G. G. Barrera, secretary. These, with Adolfo Aymes and Melesio Garza, form the directory. A letter to THE INDIA RUBBER WORLD regarding this company says: "They have stumpage contract covering a long period on an immense tract of land, covered with guayule, located in the northern part of this state, and some 100 miles west and south of the Texas line. This contract was entered into under very favorable conditions some time ago, and the erection of a factory plant has been contracted for. They expect to become large producers of rubber when the market will justify it, and at present will extract some 25 tons per month, and the product will probably be contracted to European concerns."

R. L. Bonnet, who is manager of the American Bank of Torreon, and Enrico Notholt have undertaken the erection of the factory, for which purpose they are mentioned in the Mexican newspapers as having asked the government for exemption from taxation for 10 years on a certain amount of capital to be invested in its construction.

Compañia Guayulera de Saltillo was mentioned in the Torreon (Mexico) *Enterprise* of February 6 as about ready to begin on a large scale the operation of their plant at Saltillo for the extraction of rubber from the guayule shrub, by a special chemical process.

What The Rubber Planters Are Doing.

"CASTILLOA" RUBBER RESULTS IN MEXICO.

AN American crude rubber merchant in Boston advises **THE INDIA RUBBER WORLD**: "Shipments of *Castilloa* from Mexican plantations have now begun to come forward with regularity, and I think the increase in the amount will be about the same as that of the *Hevea* has been from Malaya and Ceylon." He mentions the recent receipt and sale of 2,000 pounds of plantation *Castilloa* rubber from one plantation in Mexico, which realized 90 cents a pound for "grena" and \$1.05 for "biscuits," the latter being exceptionally fine. Shipments from two other plantations are mentioned, which also brought good prices. Our correspondent adds: "All these plantations will tap a much increased quantity this season; in fact, one, I expect, will tap something like 15,000 or 20,000 pounds." This information is communicated with reserve as to the particular plantations involved. On this page appears an illustration from a photograph of a lot of cultivated *Castilloa* rubber gathered by La Zacualpa Rubber Plantation Co. on their estate in Mexico, and placed on exhibition for some time doing December in the store of the Goodyear Rubber Co., Nos. 573-579 Market street, San Francisco. The shipment amounted in weight to 10,000 pounds, and is referred to as covering the collections for six weeks.

LA ZACUALPA "PLANTATION" RESULTS.

SOME details of rubber yields of the La Zacualpa Plantation Co., on their Mexican estate, appeared in **THE INDIA RUBBER**



"CASTILLOA" RUBBER FROM "LA ZACUALPA."

[A shipment of 10,000 pounds on exhibition at the Goodyear Rubber Co.'s store in San Francisco.]

WORLD August 1, 1908 (page 374), the salient point being that in the collection of 40,600 pounds of rubber in 1907 the yield per tree, averaging slightly under 6 years old, was 2.52 ounces from each tapping. Most of the trees in question were tapped only once. A later report signed by O. H. Harrison, vice-president and resident director of the company, states that as an experiment some 7-year-old trees, 4 months after having yielded 3 ounces of rubber each, were subjected to "severe tapping" and gave from 8 to 11 ounces each of rubber as treated by the company's process, which is stated to be equal to 10 to 14 ounces of the rubber ordinarily obtained from *Castilloa*, and of the character upon which usual estimates of yield are based. The report points to the assurance of the company that *Castilloa* trees 6 or 7 years old will stand three tapplings a year, giving a total of 6 ounces per tree. Mr. Harrison states that his com-

pany shipped on account of the 1907 dividends, in addition to the 40,600 pounds referred to already, 15,900 pounds from wild trees on the company's property, and neighboring lands of his own.

RUBBER PLANTERS OF HAWAII.

THE second annual meeting of the Hawaiian Rubber Growers' Association (Honolulu, November 19) was well attended, and the members appeared enthusiastic over the results obtained up to date and the prospects for further development. Dr. Wilcox, in charge of the government experiment station, read a report on experiments conducted under his direction, which convinced him that rubber as now grown in the territory would yield an assured profit. The meeting was attended by a number of citizens other than rubber planters, who commented upon the desirability of having other industries than sugar in Hawaii, and the whole population seem to look forward to good results being derived from rubber.

Mr. F. T. P. Waterhouse, one of the members present, had published during the year a report of a visit to the rubber plantations of Ceylon, Malaya, and Java. Hugh Howell, an officer of the association, was referred to as the father of rubber planting in Hawaii. The original Ceará rubber trees planted by him about 10 years ago at Nahiku, on the island of Maui, are still alive and flourishing. The meeting wound up with a banquet.

The officers chosen for the ensuing year were Dr. E. C. Waterhouse, president; H. A. Baldwin, vice president; D. C. Lindsay, secretary and treasurer; Hugh Howell and F. L. Waldron, trustees. A report of the first meeting of the association appeared in **THE INDIA RUBBER WORLD** December 1, 1907 (page 87).

The interest of the Hawaiian territorial government in the subject of rubber culture is indicated by the fact that the personnel of the agricultural experiment station includes an official designated as "assistant in rubber investigation."

NEW PLANTING COMPANY IN HAWAII.

A CORPORATION has been formed for planting rubber at Puna, on the island of Hawaii, known as the Pacific Development Co., Limited. The authorized capital is \$30,000, and its officers E. C. Brown, president; F. L. Waldron, vice president; B. von Damm, secretary and treasurer. They have planted to date 36,917 Ceará rubber trees on 113 acres and 8,700 *Hevea* on 47 acres. The company have also planted some pineapples and coconuts.

RETIREMENT OF SIR DANIEL MORRIS.

SIR DANIEL MORRIS, K. C. M. G., D. SC., has retired from the post of imperial commissioner of agriculture for the British West Indies, which he had occupied with conspicuous success since August, 1898. Dr. Morris had previously been assistant director of the royal botanic gardens at Kew. He was the author of the "Cantor lectures" on india-rubber, before the Society of Arts in London, in April, 1808, a notable contribution to the literature of rubber, and in his official position encouraged the development of rubber culture in the West Indies. Sir Daniel has been succeeded by Dr. Francis Watts, C. M. G., late superintendent of agriculture for the Leeward islands.

THE WEST INDIA COMMITTEE.

SIR HENRY KATZ DAVSON, recently elected chairman of the important West India Committee in London—after having been vice chairman since 1898, was born in Berbice, British Guiana, where his family in 1816 founded a successful business firm of which he is now the head. In 1845 Sir Henry entered the colonial service, in which he won distinction. He concerned himself with the development of British Guiana resources, and was a pioneer in the balata trade which, in that colony, had its beginning in Berbice, Sir Henry's native district. The West India Committee are stimulating the planting of rubber, and

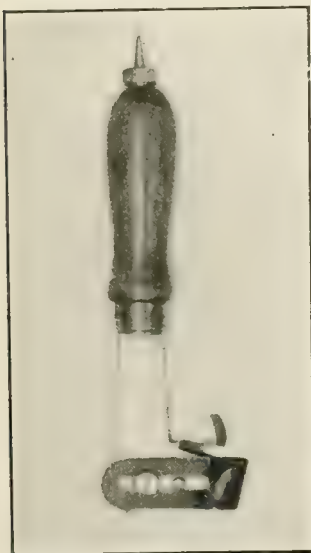
made a notable display at the London Rubber Exhibition last September.

Rubber of the *Castilloa* species was first planted on the island of Tobago about 20 years ago, by Captain Short, for shading cacao. Some of the trees are now 7 feet in girth. About 10 years ago the West India Rubber Plantation Syndicate, Limited, commenced planting *Castilloa* on the "Louis d'Or" estate, where they are now tapping. They use centrifugal coagulating process of Biffen and Howard, turning out, it is said, fine rubber.

On the island of Trinidad there are about 50 plantations of *Castilloa* rubber, from a few of which exports of rubber have been made.

TAPPING TOOL FOR "CASTILLOA."

The illustration shows a new type of tapping tool for use on *Castilloa* rubber trees. The blade is so arranged that it can be slipped up or down, away from the guard, enabling it to make either a deep or shallow cut. That is about all the description that is needed with the illustration. It is in use on the Mexican plantation of The German-American Coffee Co., of New York.



RUBBER TAPPING TOOL.

RUBBER PLANTING IN MEXICO.

MR. JAMES C. HARVEY has resigned his connection with the Mexican Mutual Planters' Co. (Chicago) as general manager of "La Junta" plantation, in Vera Cruz, Mexico, to be able to devote more time to his private planting interests. [See THE INDIA RUBBER WORLD, February 1, 1909—page 184.]

Mr. C. E. Lyman, president and manager of Batavia Co., Inc. (Milwaukee, Wisconsin), while visiting Mexico recently, informed *The Mexican Herald* that experimental tappings just

made on their plantation in Oaxaca gave very satisfactory indications as to the yield of rubber to be expected when the trees are more mature. Mr. C. A. Coe, general manager of Mexican Development and Construction Co. (Oshkosh, Wisconsin), is reported by the same paper to have made similar statements regarding his company's plantation "El Modelo" in Oaxaca.

The annual meeting of the shareholders of Hacienda del Corte, Inc., owners of "Del Corte" rubber plantation in the state of Oaxaca, Mexico, will be held in Milwaukee, Wisconsin, on March 3.

PLANTING MORE RUBBER IN BORNEO.

New rubber planting enterprises continue to be formed in the territory of the British North Borneo Co., a chartered company having sovereign and territorial rights over the whole of the state of British North Borneo. This chartered company has granted concessions on favorable conditions to a number of companies for planting rubber, tobacco, and other crops. The rubber companies so formed to date are:

Sapong Rubber and Tobacco Estate, Limited. Formed April, 1905; offices, London; capital issued, £75,000; rubber planted, 750 acres.

British Borneo Pará Rubber Co., Limited. Formed April, 1905; offices, Glasgow; capital issued, £30,000; rubber planted, 1,000 acres.

Tenom (Borneo) Rubber Co., Limited. Formed January, 1906; offices, Glasgow; capital subscribed, £43,000; rubber planted, 1,000 acres.

Manchester North Borneo Rubber Co., Limited. Formed February, 1906; offices, Manchester; capital subscribed, £54,000; rubber planted, 900 acres.

Langkon North Borneo Rubber Co., Limited. Formed March, 1906; offices, London; capital subscribed, £60,000; rubber planted, 600 acres.

Beaufort Borneo Rubber Co., Limited. Formed June, 1907; offices, London; capital subscribed, £61,000; rubber planted, 600 acres.

Sekong Rubber Co., Limited. Formed June, 1908; offices, London; capital allotted, £60,007; rubber planted, 300 acres.

North Borneo State Rubber, Limited. Formed November, 1908; offices, London; capital subscribed, £100,000; rubber planted, 200 acres.

The authorized capital of the eight companies is £760,000; the amount of capital issued, as shown above, £483,007. The acreage of rubber planted, at latest accounts, mostly *Hevea*, was 5,350. Some of these companies are planting more or less tobacco.

YIELDS OF PLANTED "HEVEA" RUBBER.

TEN rubber plantations in Ceylon and Malaya report officially the yields, for three calendar years past, indicated in the following table. The companies named are among the largest producers, but the choice of these ten has been made for no other reason than that complete figures relating to them happen to be in hand at the moment of this writing. Presumably other companies have made corresponding progress in the rate of yield, and the management of the companies in this list would appear to be justified in arranging their affairs in the expectation that when more of their trees are tapped they will obtain proportionately larger yields.

Anglo-Malay Rubber Co.....	91,713	224,150	2349,450
Linggi Plantations	17,228	110,740	271,500
Damansara (Selangor) Rubber Co... 11,904	57,376	124,710	
Consolidated Malay Rubber Estates. 32,623	63,615	111,585	
Selangor Rubber Co.....	70,577	120,524	186,096
Lanadron Rubber Estates.....	—	97,193	181,156
Sumatra Pará Rubber Plantations... 13,419	43,852	64,030	
Malacca Rubber Plantations.....	14,500	9,000	40,534
Vallambrosa Rubber Co.....	156,922	222,459	262,459
P. P. K. Ceylon Rubber Estates.....	8,305	14,800	29,000

Total (ten companies).....417,191 963,809 1,626,500

a—Including 2,456 pounds held over from last year.

b—Including 1,920 pounds "rampong" rubber.

RUBBER PLANTING MISCELLANY.

THE Federated Malay States, which are under British control, do not embrace all the rubber plantations in Malaya. In the native governed state of Kelantan about 22,000 acres have been planted to rubber. Much planting has been done also in the native state of Johore, including the "Lanadron" estate, owned by Pears's soap interests, and already largely productive. Account must be taken, also, of the plantations in the Straits Settlements, a British colony distinct from the Federated Malay States.

The samples of plantation rubber from Ceylon shown at the Ceylon court at the Olympia rubber exhibition last fall were transferred to the Colonial Exhibition at Liverpool, after which they were sold, in spite of having been tossed about, packed and unpacked time and again, at prices up to 5s. 2d. for worm crepe, 5s. 3d. for sheet, and 5s. 5d. for biscuits. The *Ceylon Observer's* London correspondent would not be surprised, in the face of these results, if the Ceylon exhibitors should turn out to have netted a direct profit on their participation in the Olympia show.

NEW "SAN MIGUEL" INDICTMENTS.

SOME months ago the United States grand jury at Chicago returned indictments against two officials of the San Miguel Plantation Co., upon an alleged charge of using the mails to defraud. The parties referred to were Talton Embry, vice president, and Hiram E. Rose, secretary, of the company. [See THE INDIA RUBBER WORLD, September 1, 1908—page 403.] Later, in the United States district court at Chicago, demurrers in these cases were filed, and on December 11, 1908, sustained by the court. New indictments were then found against Embry and Rose, upon the same charge, and also against Richard Walsh, president of the San Miguel company, the whole being docketed as Case No. 4,132 in the district court. Following the new indictments bench warrants were issued for the arrest of the defendants, and appearance bonds given by each. No further action had been taken in the case at last accounts.

Some India-Rubber Interests in Europe.

DUNLOP RUBBER FACTORY IN JAPAN.

THE shareholders of Dunlop Pneumatic Tyre Co., Limited, at a special meeting (London, February 1), approved of a proposition of their directors to become interested in a rubber factory in Japan, of which an intimation occurred in the address by Chairman du Cros at the last annual meeting of the Dunlop Rubber Co., Limited. [See THE INDIA RUBBER WORLD, February 1, 1909—page 171.] The Dunlop interests have had no direct representation in the Orient hitherto, except a selling agency for Japan, since 1906—the firm of H. & W. Greer. The Dunlops have invested no capital in that concern, however, beyond a stock of bicycle tires. The firm of Greer have now brought forward a plan to organize a rubber factory in Japan, capitalized at £81,000 [= \$394,186.50], of which the Dunlop company will receive £15,000 [= \$72,997.50] in full paid preference shares for their trade-marks and also a royalty in perpetuity on all tires manufactured by the new company. A director in the Dunlop company will have a seat on the board.

OTHER DUNLOP INTERESTS.

THE directors of the Dunlop Rubber Co., Limited, who have not been paid fees from the funds of that company hitherto, but have relied for compensation upon Dunlop Pneumatic Tyre Co., Limited, will receive hereafter fees aggregating £2,000 a year, and such further sums as the company may in future determine in general meeting.

It would appear that not all the branches of the Dunlop TIRE COMPANY are worked so profitably as the parent company, whose large dividends have been recently reported in THE INDIA RUBBER WORLD. The report of the Société Française des Pneumatiques Dunlop, Limited, for the financial year ending July 31, 1908, showed a net loss of £11,744, but on account of the balance carried over from the past the directors recommended a dividend of 6 per cent. on the preference shares, leaving a balance of £13,851 to be carried to the new account.

RUSSIA.

THE Russian-American India-Rubber Co., "Trëugolnik," of St. Petersburg, announce the complete merger with them of the important house of Leopold Neuscheller, of the same city, the assets and liabilities being assumed in full. The general management of the sales department under the new arrangement has been entrusted to H. van Gilse von der Pals. The community of interest of the two firms was mentioned in THE INDIA RUBBER WORLD September 1, 1908, (page 399), and also the addition to the firm name of Russian-American company of "Trëugolnik," a Russian word for "triangle," or "three-cornered," and descriptive of the company's long used trade mark.

The Gummiwaren-Fabrik "Russia," Gebrüder Freysinger ("Russia") Rubber Goods Factory, Freysinger Brothers), at Riga-Sassenhof, announce that engineer Friedrich Krauss has by mutual consent retired as a general partner of the firm as from January 1 last, but will continue his connection with the firm as a special partner. Power of attorney was granted under the same date to Paul Vieweger, who has been in the employ of the firm for many years.

GERMANY.

THE retirement is announced of Adolf Prinzhorn from active service in the Continental Caoutchouc- und Guttapercha-Compagnie (Hanover), of which he has been for many years managing director. Herr Lüdecke also retired from active service, but both gentlemen will continue to give the firm the benefit of their experience. Herr Prinzhorn recently made an extensive visit to the rubber planting regions of the Far East. [See THE INDIA RUBBER WORLD, November 1, 1908—page 72.]

The name of the Hannoversche Gummiwaren- und Balata-

Treibriemen-Fabrik, Adolf Prestien, has been changed to Hannoversche Gummiwaren- und Textilriemen-Fabrik, Adolf Prestien (Hanover Rubber Goods and Woven Belting Works). The former partnership has been dissolved, through the retirement of Ulrich Struck and Heinrich Augustin, leaving Adolf Prestien sole owner.

The senior member of the firm of S. Herz, rubber goods manufacturers of Berlin, Herr Wilhelm Herz, already *Geheimer Kommerzienrat*, has been honored by the Kaiser with the decoration of the Order of the Red Eagle, second class, with the Star. Mr. Herz is one of the oldest men in the German rubber trade, but although he has reached the age of 86, he still shows untiring energy, being actively engaged in the management of the works, and holding even now the office of president of the Berlin Chamber of Commerce.

Thüringer Schlauchweberei und Gummiwerk G. m. C. H., with 410,000 marks [= \$97,580] capital, has been organized for the manufacture at Waltershausen of linen and rubber hose, mechanical rubber goods, and pneumatic and solid tires, by Fritz Kestner and Ludwig Wulf, the latter sometime connected with the rubber factory of B. Polack, also in Waltershausen.

Mannheimer Gummi-, Guttapercha- und Asbest-Fabrik, A. G. (Mannheim) have had another good year, and the dividend is 10 per cent., the same as in the preceding year.

RUBBER WORKS MOVED FROM BERLIN.

VEREINIGTE Berliner-Frankfurter Gummiwaren-Fabriken have transferred their Berlin works to Lichterfelde-Ost, Steinstrasse, 3, where new works have been completed and a modern machinery plant installed. For the convenience of customers in the city an office and warehouse have been opened in Berlin near Potsdamer platz. The Berlin works, on the river Spree, were among the oldest in the rubber trade in Germany, having been established in 1849 by an Englishman named Elliott. The business of the company has been largely developed under the management of Mr. Emil Spannagel, who has been in charge for the past fifteen years. The company have factories also at Glenhausen and at Grottau (Bohemia).

AUSTRIA.

VEREINIGTE Gummiwaren-Fabriken, Harburg-Wien, vormals Menier-J. N. Reithoffer, at their Vienna headquarters, have granted joint power of attorney to Karl Reiser, chief cashier at the Wimpassing factory, in succession to Franz Stingle, imperial counselor.

PROFITS OF GEORGE ANGUS & CO.

THE twenty-first annual report of George Angus & Co., Limited, manufacturers of leather belting, balata, and cotton beltings, and woven hose at Newcastle-on-Tyne and Bentham, Lancaster, shows a net profit of £33,280 16s. 4d. [= \$161,961.10]. Dividends 5 per cent. on preference and 10 per cent. on ordinary shares, with 4 per cent. on mortgage debenture stock. Balance carried forward £36,458 5s. 10d., practically the same as last year. From 1899 to the present the annual dividend on ordinary has been 10 per cent., with the exception of 1901, 1904, 1905 and 1906, in which 12½ per cent. was paid.

GREAT BRITAIN.

MACLAREN & SONS, Limited, registered in London December 1, 1908, with £42,000 capital (of which £12,000 in preference shares), succeed to the business of MacLaren & Sons, publishers of *The India Rubber Journal* and other trade journals. Directors: W. F. de Bois MacLaren, F. Copeman, J. Allison, J. H. Macadam and Herbert Wright.

The voluntary liquidation is reported of Elastes Co., Limited, an English company manufacturing "Elastes," a tire filler.

The American Hard Rubber Co. have removed their London agency from the premises occupied for the past eight years to larger quarters in Basma House, 13A, Fore street, E. C.



The Editor's Book Table.

TWENTIETH CENTURY IMPRESSIONS OF BRITISH MALAYA: Its History, People, Commerce, Industries, and Resources. Abridged Edition. Editor in Chief, Arnold Wright (London). Assistant Editor, H. A. Cartwright (Singapore). London: Lloyd's Greater Britain Publishing Co., Limited. 1908. [Cloth. Large 4to. Pp. 285. Price, 12s. 6d.]

FEW of the oversea possessions of the British crown, outside of India and the great self-governing colonies, can compare in interest and importance with the Straits Settlements—the central point of which is Singapore—and the related Malay States under British rule. British Malaya, indeed, provides to-day perhaps the most remarkable illustration throughout the empire of the remarkable national genius of England for colonization. Only a few decades ago the area covered by the Straits Settlements was dear to the hearts of the writers of boys' stories. It was the region of pirate junks, of marauding tribes who shared the primeval forests with the hardly more wild man-eating animals. To-day life in no part of the world is nowhere more orderly, life nowhere safer; systematic and efficient government prevails, and wealth is being amassed at a rate almost fabulous, carrying with it the introduction of the conveniences and elegances of the best civilization that the world affords.

Not that the whole scene has been changed; far from it. The original inhabitants remain, with their costumes, manners, religions, and outward forms of government. But a new element has entered, and it controls—quietly, and behind the scenes, but none the less effectively. His Highness, Sir Ahmad Maatharn Shah'ibini Almerhum Ali, K. C. M. G., the Sultan of Pahang, for example, may rule the people of his district with all the pomp and picturesque display of his ancestors, but the local British "resident" has the last word when a question of real moment is to be decided. The Chinaman, too, has appeared on the scene, as is evident from the mercantile advertisements in the *Kuala Lumpur* and other daily newspapers, or from every page of the city directory of Singapore, but the Anglo-Saxon is in control.

So much by way of suggestion of the breadth of the subject. As for the book, its mere appearance, even before one has a glance at the contents, commands respect and invites confidence. It would be hard to suggest a feature of life in the region to which it relates that has been overlooked by the compilers, who in most cases have had the assistance of collaborators of reputation as specialists. There is history, description of the country, and an account of the native peoples. Everything seems to have been covered, and every page bears the impress of painstaking, and that suggests accuracy. On this point we may quote *The Malay Mail*, published on the ground, so to speak, as commending the book in the latter respect, especially. The number of pages mentioned above gives no adequate idea of the extent of the work, as the typographical style admits of four times as much reading matter as one is accustomed nowadays to find on a page, and the effect is pleasing. And there must be a thousand attractive and informing illustrations.

Of course planting is dealt with, and rubber planting. Mr. J. B. Carruthers, director of agriculture in the Federated Malay States, and Mr. Francis Crosbie Roles, editor of *The Times of Ceylon*, write on rubber, and the illustrations of plantation rubber being prepared by modern machinery, under scientific methods, compare strikingly with some forms of native handiwork pictured on other pages.

This book is described on its title page as an "abridged edition," which it is. The first imprint was a sumptuous subscription work embellished with a vast number of portraits, which have been omitted in printing the work for wider distribution. Likewise biographies of local and present celebrities have been dispensed. But even "abridged" the book is a wonder of fulness. As a collection of pictures alone the book is worth its price.

"THE ARGOSY" HANDBOOK OF BRITISH GUIANA AND DIRECTORY for 1909. Georgetown: The Argosy Co., Limited. 1909. [Cloth. 8vo. Pp. ix + 352. Price, \$1.20.]

FEW corners of the British empire are more remote from the center than little British Guiana, the sole British possession in South America. Yet one who has the privilege of reading the well-edited Georgetown newspaper, *The Argosy*, will gain the impression that the apparent isolation of the colonists by no means keeps them out of touch with the mother country, or with the world at large. This impression is strengthened by a look over the very complete handbook which the proprietors of this newspaper have brought out this year for the first time. A glance through its pages reminds one of England in many ways; in fact, British Guiana life is evidently an England in miniature, judging from the "institutions" listed in this book. British Guiana is of importance to the rubber trade as a producer on a continually growing scale of balata, and attention is being given lately to the native rubber resources of the colony and also to rubber culture.

PHYSIOLOGISCHE GRUNDLAGEN ZUR BEWERTUNG DER ZAPFMETHODEN bei Kautschukbäumen. Nach einigen Versuchen an *Hevea Brasiliensis*. Von Professor Dr. Hans Fitting. (Beihefte zum *Tropenpflanzer*, 1909, No. 1.) Berlin. [8vo. Pp. 43.]

THIS is a very comprehensive study of methods of tapping rubber trees of the most important species, following considerations on the physiology of the plants and particularly of the bark formation, and the conditions favorable to the flow of latex. The studies were carried out at the botanical gardens at Buitenzorg, Java. There are several illustrations and copious references to what has been published on the subject hitherto. The author treats of methods or systems, rather than of particular types of tapping knives.

IN CURRENT PERIODICALS.

DIE Zukunft des Parakautschuks am Amazonas. By Dr. S. H. Berkhout. [An answer to a review of a German consular report by D. Sandmann entitled "Die Gewinnung des Parakautschuks am Amazoans und seine Zukunft," in an earlier number of the same periodical.]—*Der Tropenpflanzer*, Berlin. (XIII 2 Feb. '09.) Pp. 53-68.

Observations sur le Manicoba de Jéquié (*Manihot dichotoma*, Ule). By Léon Mosselman du Chenoy.—*Journal d'Agriculture Tropicale*, Paris. VIII-90 (Dec. 31, '08). Pp. 357-360.

RUBBER IN THE "GREAT LONE LAND."

IT is surprising to note the extent to which the india-rubber dealer has made his invasion up into what, but a few years since, was considered the 'great lone land of Canada'—the old provinces of Manitoba, Saskatchewan, and Alberta," the returning traveler remarked.

"Up at North Battleford, where, hardly over twenty years ago 'Riel's rebellion' was fought, the business in rubber shoes is most flourishing, for the mud of these prairie towns is so bad that the people must buy or perish, well nigh. And there, as table-center in the big hotel, rubber plants thrive in the northland.

"At Lethbridge, last summer, they had sixteen days of successive rain, and so rubber coats, umbrellas, etc., were in demand. Even off at Indian Head, now, one can get 'rubber' collars in the drygoods stores, these at 20 cents apiece.

"Then interesting, in the barracks of the Royal Northwest Mounted Police, at Regina, it is to see at the end of each of these cavaliers' beds a splendid rubber blanket used on their long, hard rides after fugitives in the North. Against the wall beside each bed, too, there is a yellow slicker, serving as a raincoat which the rain cannot get through. And so, since these men have 'beats' extending up to the very Arctic itself, the rubber invasion is carried to the shores of that frozen sea."

F. J. K.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE widely circulated estimate of \$15,000,000 as the probable value of the automobile tire output of the Akron rubber factories during the current year is regarded by local authorities as far too small. Some go so far as to say that the number of tires manufactured here during 1909 will fall little short of the million mark. At any rate manufacturers are making preparations for the largest sales of any year in their history. Out-of-town branches are being stocked up, and many carloads of tires are shipped every month.

The preparations of The B. F. Goodrich Co. for the New York tire trade serve as a good indication of what is expected. Their new twelve story building at Broadway and Fifty-seventh street, which is intended to be in readiness by May 1, will be devoted to tires alone, their mechanical goods trade being continued at No. 66 Reade street.

The Goodrich company have defined a campaign of improvement which will result ultimately in replacing nearly all the old buildings of their factory with an almost solid quadrangle of six story structures of reinforced concrete construction. Two sides of this quadrangle have been completed. A building has just been started which will form a part of a third side in the rear, and plans are under way in the office of the engineer for a building 300 feet long which will form the fourth side, extending from a point near the general offices to the canal in the rear. To erect this last building it will be necessary to tear down several old brick buildings three and four stories in height. The new building will provide, on the same ground space, three times the present floor capacity. The last building to be completed, on the front side of the quadrangle is now being equipped with machinery for the manufacture of automobile tires.

The B. F. Goodrich Co. are putting on the market a new golf ball with a white gutta-percha cover to be sold under the name, "Haskell White Streak." The price will be 50 per cent. higher than that customarily charged for golf balls. The white covers, designed to do away with the troubles caused by the wearing of paint on the black cover, is forced into the thread of the center. A perfect balance and uniformity is claimed for the new product.

The boot and shoe department of the Goodrich company is unusually active at the present time. Though the normal output of the plant is about 5,000 pairs a day, it ran up to 9,300 pairs during the middle of February.

The Diamond Rubber Co. have developed their insulated wire and cable department to an extent which enables them now to enter the market on a large scale. Wire drawing, braiding and stranding machines have been installed, and 165 men, many of them brought from the other factories, have been put to work in this department. The position of superintendent of this department is held by Mr. O. F. Houben, widely known as an expert in the insulated wire manufacture, and who had charge of the contract for laying a rubber insulated cable in the Red sea, where peculiar conditions seem to point to india-rubber as preferable to gutta-percha for insulation purposes.

An official of The Diamond Rubber Co. has given your correspondent authority to say positively that there is no truth in the reports that they intend to take up the manufacture of boots and shoes. If such plans do exist they are so far in embryo and confined to the secret councils of the company.

The Diamond Rubber Co. were the only Akron tire manufacturers represented at the Toronto automobile show, beginning on February 18, Mr. N. E. Oliver being their representative there. On March 1 the Diamond company will open a store at No. 602 Pike street, Seattle, Washington, which will be subsidiary to their San Francisco branch. They have opened also a branch at Omaha, Nebraska, in charge of P. Karbaugh.

Akron tires were more in evidence at the late Chicago automobile show than in any previous exhibition in that city. The

Diamond Rubber Co., the Firestone Tire and Rubber Co. (particularly for tires for commercial vehicles), The B. F. Goodrich Co., the Swinchart Clincher Tire and Rubber Co., the Motz Clincher Tire and Rubber Co., and the Consolidated Rubber Tire Co. were the Akron manufacturers represented, most of them by important members of their staffs.

Since the establishment of the Diamond Rubber Co.'s rubber covered wire and cable department, the only rubber product not made in Akron is rubber clothing. For a long time boots and shoes as a product of the rubber manufacture were unknown here, but the extensive departure in that line by the Goodrich company has made Akron a producing center of such goods of importance. Rubber clothing is not considered here on account of the fact that this class of goods is almost always made by some concern devoted exclusively to its production, and it has not been classed among general rubber products.

The Firestone Tire and Rubber Co. have located a store and branch office at Nos. 1918-1920 Euclid avenue, Cleveland, where their products will be handled after March 1.

The faculty of Buchtel College, which is located in this city, announce a course in rubber chemistry, to be inaugurated beginning with the new college year in September. This will be unique among college and university courses. It is an outgrowth of a demand for instruction in the chemistry of india-rubber by young men who are desirous of entering the industry in the various factories in this city. The course will cover a period of two years, two years' work in elementary chemistry being required before the student may enter. The first year will consist of instruction in the analysis of samples of rubber, the study of the various rubber solvents and other simpler phases of the subject. In the second year the students will be introduced to the more intricate branches of the study. One student, Yutuka Tanaka, of Tokio, Japan, has already enrolled for the course with the intention of making it the foundation of an expert knowledge of the industry which he intends to take with him to his native country. The course will be taught in a new chemical laboratory now nearing completion.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE past month has been productive of little but rain, and has the rain has been almost continuous there has been little time or inclination for branching out in new enterprises or making business changes. People in the rubber business have been supplying what orders they had to fill at the present, and taking care of what orders come in by mail, but they have not been out after new business very hard. There has been such a steady season of nothing but rain that everybody is convinced that as soon as the sun does begin to come out for a little while there will be a respectable season of fine weather and that then business will blossom out like the flowers of spring. The wet weather has held things back, but it will not take long to make up for lost time. Taking the city and coast as a whole, conditions are very favorable. In San Francisco business activity has increased to a marked degree. There is work of all kinds in progress and there is employment for large numbers of men. Out through the interior the rains have checked work of nearly all kinds, and business has not been very active, but there is a general feeling of prosperity, because it is certain that the coming year will bring out crops that will make this one of the most flourishing years which California has ever known.

The Phoenix Rubber Co. has been incorporated and the new company is settling down now to reap the benefits of an active business and a promising future. Mr. Kanzee states that January was the biggest month they have had, in spite of the rains, and that February is looking up well also. He has no doubt but that the future will be bright. Business has been especially good on automobile tires.

Mr. Grant, one of the old-time and well-known salesmen for the Gorham Rubber Co., severed his connection with that firm on the first of February, and he is now on his way to New York, where his object is to secure some new rubber lines for himself, and it is rumored that he will probably become associated with the Eccles & Smith Co., of San Francisco.

Mr. H. C. Norton, of the Pacific Coast Rubber Co., lately visited Seattle, Washington, where his firm has a branch store.

Mr. Bushnell reports that conditions have been quiet but are now looking very favorable to the rubber interests.

Mr. W. J. Gorham, of the Gordon Rubber Co., has returned from his trip to Akron, Ohio, to Los Angeles, where he will stay with the company's local branch for about a month, and then come back to the main store in San Francisco. Mr. Sargent, of the San Francisco office, states that, while the rains have caused quite a set-back to general business in rubber, they have been selling a lot of rubber boots and shoes.

The new branch store of the Diamond Rubber Co., at No. 602 East Pike street, Seattle, is now fully equipped. A. M. Olsen, traveling man for the San Francisco branch of the Diamond company, whom report had it that he had joined the navy recently, is still traveling for the Diamond Company.

Mr. C. H. Chase, manager for the Bowers Rubber Works, reports from the San Francisco headquarters that his company is well pleased by the acceptance of 12,000 feet of fire hose by the Los Angeles fire department. This department put the fire hose through a test more severe than the government or anybody else demands, and yet it passed in good shape.

Mr. A. T. Dunbar, of the Revere Rubber Co's branch, is waiting for the spring to open up the big business which is bound to come as soon as people get started.

R. H. Pease, president of the Goodyear Rubber Co., has returned from the company's branch store at Portland, Oregon, where he reports having found conditions very much better than they were at this time a year ago. There have been, he says, big storms throughout the northwest, as well as in California.

Consequently the jobbing and retail trade both have disposed of a good deal of stock, which ought to result in a big business for next fall. As soon as the weather settles there will be a good belting, packing and hose business. There will be plenty of

water for working the mines, and the reservoirs are being well filled and this should improve the sale of garden hose during the spring. The great loss in certain parts of the state owing to floods, has been more than offset to the state at large on account of the good that will come from having so much rain. Mr. Pease and his son, R. H., Jr., treasurer of the company, expect to leave in the middle of March for New York, where they will remain for a month or two.

The Gutta-Percha and Rubber Mfg. Co. state that conditions are much brighter on the coast than they have been for a long time, and that business will begin to open up probably about the first of March after the rains.

The Firestone Tire and Rubber Co. has opened a new factory branch in Los Angeles.

Seeley, Van Zandt & Crackel, at No. 938 South Main street, Los Angeles, report a very flourishing business in the automobile supply line. They have just received a large new shipment of "Continental tires."

THE NEW HOFELLER PREMISES.

THE new six-story warehouse of Theodore Hofeller & Co., Buffalo, is probably the largest and most elaborately equipped waste rubber plant in the world. The first floor is devoted to receiving and shipping, is equipped with three side car doors, and affords facilities for handling large quantities of scrap. An elaborate weighing system and a vast number of bins marked to indicate the contents of each are the features of the second floor, while the third floor is used for baling, which is done by three large presses. The sorting and packing are done on the fourth floor, which also contains coat rooms and wash-rooms for the employes. The growth of the scope of the business of Messrs. Hofeller has been continuous since its formation, 28 years ago, and a comparison of the new warehouse and offices—illustrated on this page—with the original premises is the most eloquent proof that could be desired of the rate of development of the waste rubber trade in the United States within the history of this company.



NEW WASTE RUBBER WAREHOUSES OF THEODORE HOFELLER & CO.

New Rubber Goods in the Market.

FLEXIBLE SUCTION CUP SHOE.

THE new article in footwear illustrated here is intended for all outdoor and indoor athletics, including golf, football, yachting and the like. In indoor sports the projections give a secure grip and hold. Being hollow, they give a resilient springing tread which combines speed with surefootedness. For these reasons this shoe is referred to as being sure and quicker than spiked shoes, without the danger of injury from spikes. In indoor use this shoe will not slip on polished or wet floors.



FLEXIBLE SUCTION CUP SHOE.

The soles are studded with individual suction cups, so that when the sole strikes the floor the weight of the wearer causes a vacuum in each cup, with suction sufficient to give absolute security against slipping. These shoes also are recommended for wearing quality, the reason of the long wear being in the quality of the rubber used and superior construction of the sole. The shoes are Goodyear welt, with soles cemented and sewed. The suction cup shoe has been adopted by several leading houses in the sporting shoe trade, who are featuring it this season. [The Flexible Rubber Goods Co., Winsted, Connecticut.]

THE GOODYEAR AIR BOTTLE.

A DEVICE, which has a close relation to rubber tires, and which depends for its own usefulness upon the employment in it of rubber tubing, is the Goodyear Air Bottle, illustrated on this page.



GOODYEAR AIR BOTTLE, FOR TIRES.

A steel bottle is charged with pure air—not gas. When it is desired to inflate a tire, it is necessary only to attach the rubber tube from the bottle to the tire, open a valve, and allow the tire to fill to the pressure required. Not only is there no labor re-

quired, but there are no complicated parts to get out of order, and the tire can be brought up just to the right pressure. The cost of a bottle filled with air is \$15, and this is intended to last for two years, after which it may be refilled at slight cost. [The Goodyear Tire and Rubber Co., Akron, Ohio.]

"ALPHA" STEERING WHEEL GRIP.

THE makers of the widely-known "Alpha" brand of rubber goods have been encouraged by their success in the manufacture of red rubber inner tubes for tires to go further into the field of automobile accessories, with the result that they have brought out



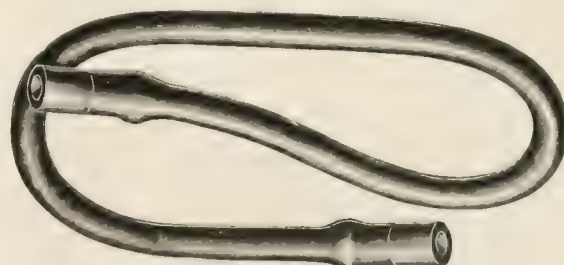
PATENT RIGHTS PENDING

"ALPHA" STEERING WHEEL GRIP.

something entirely new in the way of a Steering Wheel Grip for automobiles and motor boats, the design of which is indicated in the illustration. This article is made in either black or red rubber, and is referred to as indispensable for safety and thorough control. [Parker, Stearns & Co., New York.]

"KANTLEEK" AUTO LAMP CONNECTION.

THE Seamless Rubber Co. (New Haven, Connecticut), who have come into the market with a considerable line of motoring accessories, starting with their "Kantleek" inner tubes, made in red or gray rubber for any standard type of tires, now include in their list "Nearkid" rubber driving gloves, gas main bags to withstand the action of acetylene gas, red auto tubing, lamp connections, outside and inside blowout patches, repair and vulcaniz-

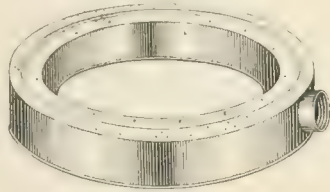


"KANTLEEK" AUTO LAMP CONNECTION.

ing cement, and an extensive line of automobile horn bulbs. Not the least in importance in this connection is the item of lamp connections. It is not safe to use cheap connections, and those who have used the white rubber kind will doubtless be ready to use something else. The stock used in the "Kantleek" connections is supplied in colors and specially prepared with a view to withstanding the action of acetylene gas. They are made with rolled ends or sockets in order that they may be easily attached.

THE RING LAWN SPRINKLER.

AN improvement over the Ring Lawn Sprinkler manufactured lately by W. D. Allen Manufacturing Co. (Chicago), has been brought out by them for the 1909 trade, the general appearance of the same being indicated in the accompanying illustration. This sprinkler gives a finely divided but well defined spray which presents a very attractive appearance on the lawn. It is referred to



THE RING LAWN SPRINKLER.

as being in wide demand among rubber houses and jobbers generally. The Allen firm are referred to as manufacturing 47 varieties of lawn sprinkling devices, and they add to the list every season. Not only are they the largest manufacturers in the world of lawn sprinklers, but they claim to make more sprinklers than all other houses in the trade combined. Their goods are in good demand in several foreign countries.

AN ORNAMENTAL RUBBER SHOE SOLE.

IN recent years an entirely new line of invention has been developed in the way of the ornamentation of shoe soles, something which formerly does not appear to have been thought of. The

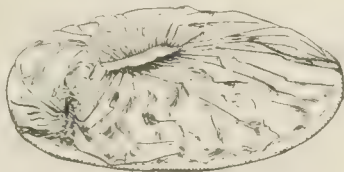


ORNAMENTAL SHOE SOLE.

accompanying cut refers to an ornamental design for the sole of a shoe for which a patent has been granted to Francis R. McKenna, assignor to Bourn Rubber Co., Providence, Rhode Island.

THE KENDALL HAT PROTECTOR.

A VERY useful and practical article for use of ladies is the Kendall hat protector, for guarding headwear from rain, dust and dampness. It is a recent invention by a lady who is understood to have built up a large trade already. This protector,



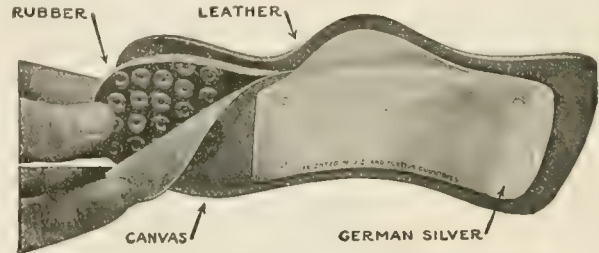
KENDALL HAT PROTECTOR.

made of crepe de chine, silk or satin, in various colors and rubberized, may be carried in a neat little package in a handbag. It is serviceable when one is caught in a shower, and may be equally serviceable when one is automobiling or when on the train or at the seashore. It has been referred to as a good substitute for an umbrella for protecting a lady's hat, it being supposed that a

raincoat will be worn for the remainder of the costume. [The Kendall Hat Protector Co., No. 45 West Thirty-fourth street, New York.]

ARCH SUPPORT AND HEEL CUSHION.

THE invention described as the Tread-air heel cushion has been described already in these pages. These are intended to be worn inside the shoe, instead of using the ordinary rubber heel. The same



ARCH SUPPORT AND HEEL CUSHION.



SHOE SHOWING ARCH.

manufacturers are now offering a foot rest, or arch support, to meet the demand for something in this line now referred to as being very widespread. In answer to the suggestion that nature did not provide the human foot with an artificial support, it is pointed out that neither did nature provide leather shoes or stone pavements, and that tired feet are the result of modern conditions under which a properly designed support may become very useful. One of the cuts herewith indicates the relation to each other of the various materials used in the Foster combination, the heel cushion being made of leather, rubber and canvas, and the foot support of German silver. A second cut shows the position which

the whole occupies in the shoe. [Foster Rubber Co., No. 170 Summer street, Boston.]

THE "PU-REA-TA" SYRINGE.

THE syringe illustrated on this page, which is the subject of a recent United States patent, differs from other types on the market in that, while adapted to use for liquid injections, it may be employed also for applying medicaments in the form of powders. As shown in the illustration it includes a powder tube, which is removable in case it is desired to transmit water or any other fluid through the syringe. Where fluids are used, the "Pu-rea-ta" does not throw a solid stream, but a spray. [O. Katzenberger, patentee, No. 301 Barrera street, San Antonio, Texas.]

"PU-REA-TA"
SYRINGE.

WHILE the Brazilian rubber tree (*Hevea Brasiliensis*) in its native habitat is reported to yield uniformly three seeded fruits *Hevea* trees planted in the Far East appear frequently to show abnormalities in this respect. Director Ridley writes in the *Agricultural Bulletin*: "We have met with fruit of *Hevea* with two, four and five seeds. Some trees are very irregular in this matter, and one tree in the Singapore botanic gardens produced a large proportion of four and five seeded capsules on several occasions."

News of the American Rubber Trade.

RUBBER FACTORY INSURANCE.

AT the annual meeting of The Rubber Manufacturers' Mutual Insurance Co. of Boston, on January 27, the financial statement presented showed the amount at risk on December 31, 1908, to be \$53,257,326. Mr. B. G. Work, president of the B. F. Goodrich Co. (Akron, Ohio), was added to the board of directors, this being the first time that a place on the board has been filled outside of New England, except that the Hodgman Rubber Co., of New York, have always been represented on the board, Mr. George B. Hodgman, president of that company, now holding a seat. The officers were re-elected: Arthur H. Low, president; Benjamin Taft, vice president, secretary and treasurer; F. W. Moses, assistant secretary and assistant treasurer, and W. E. Brophy, assistant secretary. The Rubber Manufacturers' Mutual Insurance Co. was incorporated in Massachusetts November 4, 1884, and had risks outstanding on December 1, 1885, of \$2,478,671, since which time its success and its growth have been continuous.

THE GOODRICH COMPANY IN ENGLAND.

ON January 26 was registered at Somerset house The B. F. Goodrich Co., Limited, to take over the business in the rubber trade carried on hitherto in London by The B. F. Goodrich Co., of Akron, Ohio. The directors are Bertram George Work, Henry E. Raymond, William A. Folger, Charles B. Raymond and A. E. Lumsden. The capital mentioned is nominal £100 [= \$486.65].

NEW ENGLAND RUBBER CLUB AND THE NAVY.

THE Mid-winter Dinner of the New England Rubber Club, which ordinarily occurs in February, has been delayed to await the arrival of the American battleships that have just returned from the world cruise. The programme for the dinner, which occurs on March 22 at the Algonquin Club, Boston, includes speaking by naval officers, notably captains of certain of the battleships, Commodore Swift of the Charlestown navy yard, and others. The dinner is to be a naval dinner and in view of the interest that we have in the American fleet's wonderful journey, promises much.

"I WANT 670 COLUMBUS."

TRENTON Rubber Manufacturing Co. (Trenton, New Jersey) have established a branch store in New York city, at No. 1997 Broadway. The location of the new house has been brought to the notice of the company's New York customers, among other methods, by the distribution of handsome blotter pads on the back of which is the representation of a pretty girl telephoning "I want 670 Columbus," while on the other side may be seen the features of the original Christopher Columbus—the expression having reference to the telephone number of the Trenton company's new store.

THE NEW KERITE COMPANY.

THE business style Kerite Insulated Wire and Cable Co., is being introduced in the insulated wire trade, a company by this name having been incorporated in New York state by W. R. Brixey. The business is the manufacture of wires and cable insulated with "Kerite" compounds, at Seymour, Connecticut, originally by the late Austin G. Day. Mr. Brixey was long associated with Mr. Day, and upon the latter's death succeeded to the business. The headquarters of the Kerite company are at No. 30 Church street, New York. Watson Insulated Wire Co. (Chicago) are Western representatives.

THE VICTOR RUBBER CO. RESUME.

THE Victor Rubber Co. (Springfield, Ohio), whose plant was burned some time ago [see THE INDIA RUBBER WORLD, Septem-

ber 1, 1908—page 416] advise that they have made good progress in getting into operation again. It was only 135 working days from the time of breaking ground until they were ready to start their new engines. The new plant consists of three concrete buildings, so arranged and divided by fire walls as to make another serious disaster by fire practically impossible. It is stated that their tire department has been increased in capacity about 50 per cent., and their mechanical department more than 100 per cent.

TO MAKE RUBBER TIRES IN NEW HAMPSHIRE.

RUBBER Step Manufacturing Co., originally of Boston and since 1892 at Exeter, New Hampshire, manufacturers under patents for rubber steps for carriages, railway cars, and the like, in which they have an international trade, are planning an enlargement of their premises and the taking on of some new lines of manufacture. Associated with Mr. Daniel Gilman, principal owner of the business and treasurer of the company, will be James F. Pring, formerly of the rubber industry at Hyde Park, Massachusetts; Everett B. Cook, and Otis E. Moulton. A new specialty will be an automobile tire to be made with a new cement mixture to fasten the rubber and canvas of the tread more securely than has been the rule hitherto. The company will also manufacture heels and soles, and be in a position to make other molded goods. They were lately working on important orders for rubber steps for England and Australia.

SALE OF A FORMER RUBBER FACTORY BUILDING.

THE sale is reported of the building occupied by the Milford Rubber Co. (Milford, Massachusetts), a proofing concern which went out of business during the past year. The company was incorporated May 24, 1899. After occupying other premises they purchased, in 1901, the "Shippee" factory of the old Milford Shoe Co., which is the property just sold. The purchaser is Frank P. Lee, of Milford, who is reported to be thinking of getting some leather shoe concern into the shop.

GETTING READY FOR WORK AT MANSFIELD.

THE Mansfield Rubber Co. (Mansfield, Ohio) expect to be in operation about March 15. They have contracted for the disposal of the output of their mechanical goods to two New York houses, and their automobile tires to a car manufacturer in Michigan. They have lately purchased \$46,000 worth of new machinery from leading makers, and also the entire equipment of the Reinforced Hard Rubber Co. (Jersey City, New Jersey), organized in 1905 but not active for two years past. The Mansfield Rubber Co. have about 68,000 square feet of floor space, and have in progress new construction which will add 40,000 square feet to this. F. A. Wilcox, formerly of the Pennsylvania Rubber Co., is president and general manager, and F. W. Walters, also lately with the Pennsylvania company, is sales manager.

TRADE NEWS NOTES.

THE importers at New York of "india-rubber cloth"—described officially as "a fabric composed of three layers of cotton cloth and one of linen cloth, with an india-rubber face, all joined together with an india-rubber solution"—protested against the collector's appraisal of the same as goods of which the chief value was cotton. The government appraisers agreed with the importers that india-rubber was the component of chief value.

The Seamless Rubber Co. (New Haven, Connecticut) will erect a two story brick structure 20 x 20 feet, in connection with their factory on Daggett street.

The business of Interstate Rubber Co., Inc. [see THE INDIA RUBBER WORLD August 1, 1907—page 353], at Spokane, Washington, has been acquired by the Rubber Manufacturing and Distributing Co.

THE "BOOT AND SHOE RECORDER" CHANGES HANDS.

It will be of interest to a very wide trade circle to hear that the founder and guiding spirit for 27 years of the *Boot and Shoe Recorder* (Boston), Mr. William L. Terhune, has disposed of his interest in that important journal, with a view to retiring from an active business career. The *Recorder* grew from small beginnings—it was one of the pioneers in trade journalism in America—to a position upon which its founder is heartily to be congratulated. The *Recorder*, being widely circulated in the shoe trade, has come to be known very generally among the distributors of rubber footwear. Mr. Terhune's in-



WILLIAM LEWIS TERHUNE.

terest has been purchased by the Root Newspaper Association, of New York, already owners of the *Dry Goods Economist*, one of the first two or three trade journals, as the term is understood now, to be established in the United States, and several other journals of importance. Mr. George E. B. Putnam, who for many years edited the rubber shoe department, and who has a wide acquaintance with the rubber and leather trades, will be in editorial charge of the *Recorder*.

NEW HOME FOR BORGFELDT & CO.

The importing house of George Borgfeldt & Co. (New York), now located at Nos. 48-50 West Fourth street, have arranged for the construction of a new building to be occupied by them on Union square, to extend 225 feet on East Sixteenth street, from Fourth avenue to Irving place, and to have a depth of 146 feet. The building will be 11 stories high, contain 300,000 square feet of floor space, and probably will be the largest in the world devoted exclusively to the display of samples. The estimated cost is \$900,000. The building will cover the site of the present Westminster Hotel. The business was established by the late George Borgfeldt, 28 years ago, in a single loft in Leonard street.

COTTON DUCK NET PROFITS AGAIN SMALLER.

The annual report of the Consolidated Cotton Duck Co. for 1908, presented at the annual meeting of shareholders at Baltimore, on February 15, showed a gross income from sales of \$6,772,844, a loss of \$3,848,541. The cost of material, labor, supplies and the general expenses were also smaller. Net earnings were \$726,926, against \$1,130,566 for the previous year, \$1,301,881.39 for 1906, and \$917,172.08 for 1905. The surplus is given at \$301,226, a decrease of \$403,340. Operations for the

year are reported to have been on a basis of 55 per cent. of the capacity of the mills, and the surplus here given represents the net earnings for the year after paying interest on the bonds. A semi-annual dividend of 1 per cent. on the preferred stock was declared, comparing with 2 per cent. paid on October 1 last, and 3 per cent. paid a year ago. The board was reelected and two members added—W. J. Casey and Spencer Turner.

The retiring directors and officers of the Mount Vernon-Woodberry Cotton Duck Co. were reelected at the same time, with the exception that Franklin Rollins was chosen to succeed C. K. Lord, deceased. [See THE INDIA RUBBER WORLD, March 1, 1908—page 199.]

The New York *Journal of Commerce* (February 18) prints an authorized statement to the effect that the earnings above reported are exclusive of the earnings of the sales company, The J. Spencer Turner Co., owned by the Consolidated Cotton Duck Co., which sold during 1908 \$10,889,000 of goods, including about \$4,000,000 of products not made by the Consolidated Cotton Duck mills, and after taking care of their debentures the Turner company have left \$34,434 from the operations of the year. Under the sinking fund the Turner company retired \$155,000 of their debentures, out of a total of \$1,600,000.

TRADE NEWS NOTES.

THE Utica Rubber Co. (Utica, New York), incorporated September 6, 1906, and since engaged in the distribution of the Boston Rubber Shoe Co.'s goods, have gone into liquidation, the business being taken over by The Bowne-Gaus Shoe Co., of the same city. The details of liquidation are in charge of Mr. William A. North, president of the Utica Rubber Co.

The factory of The Kaufman Rubber Co., Limited (Berlin, Ontario), a view of which was given in the last INDIA RUBBER WORLD, is reported already to be producing more than 1,000 pairs of footwear daily.

The insulated wire products of The Diamond Rubber Co. (Akron, Ohio) will be handled in the East by Howard R. Sharkey, with headquarters at No. 1876 Broadway, New York.

The Calmon Asbestos and Rubber Works of America (No. 100 Reade street, New York) have opened an office at No. 524 Penn avenue, Pittsburgh, Pennsylvania, in charge of Charles F. Beltz. The company manufacture a complete line of asbestos goods.

Mr. Walter E. Carver, for several years bookkeeper at the factory of the Apsley Rubber Co. (Hudson, Massachusetts), has gone to Chicago to be connected with the Rubber Manufacturing and Distributing Co., who are the distributing agents in the west for the Apsley products. Mr. Carver was a member of the Hudson school board, a lieutenant in the local militia, and master of Doric lodge, at Hudson.

There are reports that the American Federation of Labor are planning to organize into unions the rubber workers at Bristol, Woonsocket, and Olneyville, Rhode Island.

A fire at the factory of the E. H. Clapp Rubber Co. (Hanover, Massachusetts) at the end of January was held in check by the good working of the automatic sprinkler system, and speedily extinguished by the newly-organized local fire company, the damage not exceeding \$1,000.

Interest coupons on the 6 per cent. first mortgage bonds of the Safety Insulated Wire and Cable Co. (New York) were payable on February 1 at the office of The Knickerbocker Trust Co.

The Eureka Fire Hose Manufacturing Co. (New York) are erecting in connection with their plant at Jersey City a storehouse for raw materials, which will conform generally to the plans of the Associated Mutual Fire Insurance companies for brick and timber construction. The clear inside dimensions will be 75 x 50 feet, with ceiling 18 feet high, the structure being strong enough to be carried up to four stories as conditions warrant.

RECENT ANNUAL ELECTIONS.

HODGMAN Rubber Co. (New York).—Directors: Charles A. Hodgman, George B. Hodgman, Fred A. Hodgman, S. Theodore Hodgman, Newton E. Stout. Officers: George B. Hodgman, president; Fred A. Hodgman, vice-president; S. Theodore Hodgman, secretary and treasurer.

Rubber and Celluloid Harness Trimming Co. (Newark, New Jersey).—Officers: Andrew Albright, Jr., president; E. A. Spurr, vice-president; Thomas M. Kays, secretary; Edward G. Robertson, treasurer.

NEW JERSEY CORPORATIONS SUSPENDED.

THE governor of New Jersey, in a proclamation dated January 5, announced the suspension from the list of corporations formed under the laws of that state, on account of the non payment of corporation taxes for 1906, of a large number of corporations. Included are the following, related to the rubber interest, but none of which has operated to an important extent:

Acme Rubber Stamp Co., Thenton; incorporated March 14, 1905; capital, \$25,000.

Eagle Rubber Cement Co., Trenton; incorporated November 17, 1904; capital, \$125,000.

Industrial Rubber Manufacturing Co., incorporated August 5, 1905, by Joseph P. P. Alves, Chadwick Scott, and others; "to treat chemically rubber and rubber plants;" capital, \$125,000.

The list of suspensions includes also El Porvenir Plantation Co. and Salid Plantation Co., promoted for rubber culture but not believed to have begun operations.

CUSTOMS DECISIONS AT NEW YORK.

IN the matter of an importation of safety fuse by the Autolyte Manufacturing Co. (New York), brought before the United States general appraisers, the goods referred to, as claimed by the importers, were held dutiable as manufactures in chief value of rubber, and not of cotton.

An importation of carnauba wax—which material is used to a certain extent in the rubber industry—was held to be free of duty, under Paragraph 695 of the Tariff act, relating to vegetable and mineral wax.

TRADE NEWS NOTES.

THE staff and employes of the Boston branch of The Diamond Rubber Co. have monthly dinners, the latest of which, at the Hotel Lenox, on the evening of February 6, was attended by 35 persons.

The Adamson Machinery Co. (Akron, Ohio) during the month began work on their new factory for rubber machinery, which it is expected will be ready for occupancy next fall.

David Maxwell & Sons (St. Mary's, Ontario) are reported to be equipping for the manufacture of rubber covered rollers.

The Star Rubber Co. (Akron, Ohio), who are putting out an attractive line of druggists' sundries, have opened a Chicago office, which is in charge of Mr. C. H. Ten Eyck.

The De Foote Rubber Co. (Cleveland, Ohio), jobbers in tires and other rubber goods, have changed their address from No. 326 Frankfort street to No. 1837 Euclid avenue.

The purpose of the new Bradley Tire Protection Co., mentioned in the last INDIA RUBBER WORLD (page 187) is to manufacture steel and aluminum tire protectors for automobile tires under patents guaranteed to H. M. Bradley, of Fort Worth, Texas. The Eastern representative is F. E. Bradley, No. 137 East Fifty-seventh street, New York.

The Cawn Mining and Manufacturing Co. (Canton, Ohio) are marketing a material they call Aluminite, produced from a particular deposit of clay and deriving its name from the large percentage of aluminum in its composition. Other qualities mentioned are low specific gravity and a high fusing point; it is also insoluble in water and very plastic. The material is referred to as having been tested by a number of rubber manufacturers with satisfactory results.

NEW INCORPORATIONS.

AMERICAN Wire Cable Co., December 29, 1908, under the laws of Delaware; capital \$50,000. Incorporators: Ernest L. Squire (No. 925 Market street), J. A. Byrne and K. M. Byrne, all of Wilmington, Delaware.

Market Rubber Co., January 15, 1909, under the laws of Illinois; capital \$100,000. Incorporators: Harry J. Dunbaugh, George C. Madison, and J. Edwin Wing. Represented by Isham, Lincoln & Beale, No. 115 Adams street, Chicago.

Morgan & Wright, January 4, 1909, under the laws of New York; capital, \$10,000. Incorporators: Herman Goldman (No. 50 East Eighty-sixth street), John B. Trainor, and Frank Desch, all of New York city. Object, to take care of the trade in New York territory of Morgan & Wright, rubber manufacturers of Detroit, Michigan.

Cincinnati Rubber Tire Co., January 19, 1909, under the laws of Ohio; capital \$10,000. Incorporators: Frank Ayers, M. C. Lykins, Charles S. Naughton, Joseph B. Schroeder and James S. Bradshaw.

Keller-Rowe Hoof Pad Co., January 20, 1909, under the laws of Illinois; capital not stated, incorporation not being completed. Incorporators: Charles R. Brown, Charles Martin, and T. A. Sheehan, addresses not stated. Papers filed by Alden, Latham & Young, attorneys, Corn Exchange Bank building, Chicago.

The Boston-Panama Timber and Rubber Co., January 30, 1909, under the laws of Maine; capital \$5,000,000. Incorporators, Horae Mitchell and M. G. Mitchell, Kittery, Maine; S. J. Morrison, Portsmouth, New Hampshire; Elmer Sears, Newton, Massachusetts; Charles G. Brazier, Boston; and William H. Mitchell, Melrose, Massachusetts; Horace Mitchell, president and clerk, and S. J. Morrison, treasurer.

A SMALLER EGYPTIAN COTTON CROP.

THE arrivals of cotton at Alexandria—the market for this commodity in Egypt—from September 1, 1907, to December 3, 1908, were 291,931,600 pounds, as compared to 363,515,100 pounds during a like period the previous season. The size of the last crop is estimated at 625,000,000 to 650,000,000 pounds, or about 112,000,000 pounds less than in the year before. The decrease is attributed to weather conditions. Exports of Egyptian cotton from September 1 to December 3 of two seasons are reported as follows:

	1907.	1908.
England	185,751	111,171
Continental Europe.....	102,875	88,920
United States.....	19,181	15,090
Total	307,807	215,181

TRADE NEWS NOTES.

THE treasury department at Washington has issued an order allowing a drawback on duties collected on imported hemp which may enter into the manufacture at Daniel's P. P. P. rod packing, manufactured by the Quaker City Rubber Co. (Philadelphia), and exported by them, equal to the duty paid on the imported material, less 1 per cent.

(The fire which destroyed the factory of the Boynton Improved Process Oil Clothing Co., at Gloucester, Massachusetts, on February 12, caused a loss reported in the newspapers at \$60,000.

Mr. George E. Hall, general manager of the Boston Woven Hose and Rubber Co., during the past month made a business tour through the South and Southwest reporting improved prospects and indications of a good business year.

A petition in involuntary bankruptcy was filed against Eugene Arnstein, manufacturer of rubber cements, in Chicago, on February 18, 1909, in the United States district court in the northern district of Illinois, by William A. Rogan, lawyer, No. 119 Monroe street, Chicago, on behalf of unsecured creditors with claims aggregating about \$40,000. American Trust and Savings Bank was appointed by the court receiver of the bankrupt estate.

TRADE NEWS NOTES.

THE products of Firestone Tire and Rubber Co. (Akron, Ohio) will be handled after March 1 by a direct branch at Cleveland, Ohio, where the company have leased entire the storerooms Nos. 1918-1922 Euclid avenue.

Chapman Insulating Co., January 26, 1909, under the laws of New Jersey; capital, \$20,000. Incorporators: Henry S. Chapman, Edward N. Crane, and Charles W. Royce. Messrs. Chapman & Crane are respectively president and vice-president of The Arlington Co. and of The Kempshall Manufacturing Co. (New York)—from whose offices, No. 725 Broadway, THE INDIA RUBBER WORLD is informed: "The Chapman Insulating Co. is purely a private concern, organized for some experimental work along certain lines, and we have no information at the present time that would interest the public."

Philadelphia Rubber Tire Co.—S. Levy, manager—have secured the sole agency for "Trojan" pneumatic and solid carriage tires, in connection with which they will handle tire sundries and molded rubber goods, and maintain a tire repair shop. They are located at No. 680 North Broad street. The "Trojan" casings and tubes are manufactured by Rubber Rubber Co. (Rutherford, New Jersey) and are identical in workmanship and quality with the "Sterling" tires which the Rutherford company sell through other channels. The Rutherford plant has been enlarged substantially of late.

Rubber Manufacturing and Distributing Co., incorporated in Maine March 7, 1906, have qualified to do business as a "foreign" corporation in the state of Illinois, from February 4, 1909. The capital is \$500,000, of which \$125,000 is represented in the state of Illinois. Chicago will be the company's headquarters in future, but they will continue to do business at Seattle, Washington. Hon. L. D. Apsley is president, Charles F. Hamilton vice-president, Walter E. Carver secretary, and Louis B. Hitchins treasurer. The remaining director is Charles H. Crump.

E. H. Stroud & Co. (Chicago), makers of crushing, disintegrating, and other like machinery, mention two branches of the rubber industry in which their products are used—rubber reclaiming (for scrap rubber) and the guayule rubber business in Mexico.

Mr. A. C. Baker has been appointed managing director of the North British Rubber Co., Limited, succeeding Mr. Ramsey G. Stewart, who resigned on account of ill health.

The Directory of the Sporting Goods Trade, issued last year by the Sporting Goods Publishing Co. (St. Louis), and of which a notice was made in these pages at the time, has been followed by the second annual edition, for 1909, in which all the good features of the original publication are continued; besides, the book is larger and contains more details.

The Goodyear Tire & Rubber Co. (Akron, Ohio) have issued a new price list of their automobile tires and accessories, dated February 1.

Raw Products Co. (New York) have favored us with their chart of India-rubber statistics for 1908, with comparative prices for the two years preceding. The table includes among other things quotations for Bontianiak gum for each month in the year, ranging from 2½ cents a pound in March to 5 cents at the end of December.

A. G. Spalding & Brothers (New York) will be opening a retail sporting goods business in Philadelphia about April 1, having taken a long term lease on the three-story building at No. 1210 Chestnut street. F. J. Gray will be manager.

Mr. Arthur E. Friswell, after a long experience in the rubber tire industry in the United States and Great Britain, has become factory manager for the Hartford Rubber Works Co. (Hartford, Connecticut).

David Maxwell & Sons, manufacturers of farm implements at St. Marys, Ontario, are reported to be considering the taking on of the production of rubber rolls for clothes wringers, though they are not yet in a position to make any announcement.

PERSONAL MENTION.

MR. HAROLD O. SMITH, president of the Premier Motor Manufacturing Co. (Indianapolis, Indiana), who was elected chairman of the committee of management of the American Motor Car Manufacturers' Association, at the annual meeting in Chicago, early in February, after three years' membership in that committee, was for several years president of the G. & J. Tire Co., and before that connected with the Indianapolis Rubber Co., whom he represented at the organization of the American Bicycle Co.

Colonel Samuel P. Colt, president of the United States Rubber Co., is reported to be giving to the town of Bristol, Rhode Island, a \$200,000 high school building, in memory of his mother.

At a largely attended meeting of the Automobile Club of Willimantic, Connecticut, on the evening of February 11, Mr. Charles B. Whittlesey, superintendent of the Hartford Rubber Works Co., delivered an interesting address on "Automobile Tires," in which he dealt with rubber in the crude state and the various processes of manufacture, illustrating his lecture with samples of rubber and sections of tires in various stages of completion.

TRADE NEWS NOTES.

THE E. H. Clapp Rubber Co. have presented the Hanover Fire Company with a beautiful clock for their new quarters, in appreciation of their services at the recent fire at their factory.

A. A. Cushman has accepted the position of assistant superintendent of the calender hose belting, and fancy goods departments of the National India Rubber Co. (Bristol, Rhode Island).

Fairfield Rubber Co. (Fairfield, Connecticut) are building an additional storehouse, one story, 43 x 56 feet, with ruberoid roof.

J. Lowenthal & Sons (Chicago), scrap rubber merchants, have transferred their Eastern branch from New York to No. 161 Summer street, Boston.

M. D. Wells Co. (Chicago) are handling a special line of rubber footwear made for them by the Boston Rubber Shoe Co., with which they are covering the trade in the region from Ohio, inclusive, west to the Rocky mountains. Their rubber department is now in charge of James Low, for some time manager of the Duck Brand Co. (Chicago).

In the bright little periodical, *The Shoe Finisher*, published by the Boston Blacking Co. (East Cambridge, Massachusetts), there appears in the January issue, under the head, "Rubber Goes Up," an article on the rubber cement situation, written in an amusing style, but none the less pertinent on that account. The company are referred to as having built up a large trade in England.

The United States Rubber Co. have done a good stroke of business in supplying each of their 7,000 and odd shareholders with a neat booklet in which appear in *fac simile* the brands of rubber boots and shoes manufactured by that company, with the idea that when they have occasion to buy goods of this class they may at the same time help the sale of the products which aid in bringing them dividends.

At a luncheon given by Mr. Joe M. Gilbert, general manager of the Continental Caoutchouc Co., at the Hotel Astor, New York, on the afternoon of January 5, the guests included 17 agents and distributors of "Continental" tires throughout the United States. There were speakers and "a general good time." The merits of "Continental" tires and demountable rims were not overlooked.

An important case in the British courts recently related to an application by The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, for the registration of their "Maltese Cross" trade mark, as related to rubber footwear, which application was opposed by the Leyland and Birmingham Rubber Co., Limited, who already had a "Maltese Cross" brand registered for rubber goods, but not specifying footwear. The legal proceedings were long drawn out, involving the whole theory of the trade mark act, with the final result that a decision was rendered in favor of the Toronto company. The court assented, however, to the request of the opponents for leave to appeal.

Review of the Crude Rubber Market.

THE prices of Pará rubber as compared with a month ago range from 4 to 5 cents a pound higher, thus continuing the increase which has been in progress since the last low water mark a year ago, if we overlook the short spurt which occurred last November. Prices are now higher than at any time since the middle of 1906, in spite of the facts that Pará arrivals continue on a larger scale. Guayule rubber continues to be produced and sold in large quantities, and there is a steady increase in the import of plantation sorts. The market has been quiet on both sides of the Atlantic, and current quotations seem to result from normal conditions. In America the footwear factories have been inactive for a longer period than in any recent winter, so that the conditions must indicate a very general activity in other lines of rubber goods production. In the leading sorts of Africans and Centrals an increase of 1 to 2 cents a pound is to be noticed, and the market in these sorts has been steady and firm.

Following are the quotations at New York for Pará grades, one year ago, one month ago, and February 27—the current date:

PARÁ.	Mar. 1, '08.	Feb. 1, '09.	Feb. 27
Islands, fine, new.....	65@66	114@115	119@120
Islands, fine, old.....	none here	none here	121@122
Upriver, fine, new.....	67@68	121@122	125@126
Upriver, fine, old.....	69@70	123@124	127@128
Islands, coarse, new.....	41@42	50@51	61@62
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	48@49	92@93	96@97
Upriver, coarse, old.....	none here	none here	none here
Caméa .....	.....	62@63	66@67
Caucho (Peruvian), ball...	43@44	83@84	85@86
Caucho (Peruvian), sheet...	49@50	55@56	74@75
Ceylon (Plantation), fine sheet	75@76	128@129	129@130

AFRICAN.

Sierra Leone, 1st quality.....	97@98	Lopori ball, prime.....	108@109
Massai, red	97@98	Lopori strip, prime.....	none here
Benguella	61@62	Madagascar, pinky	91@92
Acera flake	20@21	Ikelemba	none here
Cameroon ball	60@61	Soudan niggers	85@86

CENTRALS.

Esmeralda, sausage.....	81@82	Mexican, scrap	80@81
Guayaquil, strip	72@73	Mexican, slab	57@58
Nicaragua, scrap	78@80	Mangabeira, sheet ...	52@53
Panama	62@63	Guayule	30@31

EAST INDIAN.

Assam	92@93	Borneo	35@45
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Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	5\$800	Upriver, fine	6\$700
Islands, coarse	2\$700	Upriver, coarse	4\$700
		Exchange	15¼d.

Latest Manáos advices:

Upriver, fine	7\$000	Exchange	15¼d.
Upriver, coarse	5\$000		

Statistics of Para Rubber (Excluding Caucho.)

NEW YORK

	Fine and Medium.	Coarse.	Total 1909.	Total 1908.	Total 1907.
Stocks, January 1	195	49	244	114	176
Arrivals, January	1244	534	1778	1100	1590
Aggregating	1430	583	2022	1274	1766
Deliveries, January	1250	528	1787	1164	1638
Stocks, January 31	180	55	235	110	128

	1909.	1908.	1907.	1909.	1908.	1907.
Stocks, Jan. 1.....tons	695	248	....	775	830	365
Arrivals, January	4335	4045	3330	1190	1184	680
Aggregating	5030	4243	3330	1965	2014	1045
Deliveries, January ...	3955	3048	2365	1785	1164	700
Stocks, January 31	1075	1245	965	180	850	345
World's visible supply, Jan. 31.....tons	3,540	4,060	2,587			
Pará receipts, July 1 to January 31....	18,410	16,945	16,730			
Pará receipts of caucho, same dates...	2,840	2,195	1,655			
Afloat from Pará to U. S., Jan. 31..	890	445	499			
Afloat from Pará to Europe, Jan. 31..	1,080	1,410	650			

New York.

SUMMARY OF PRICES FOR 1908.

	UPRIVER.	ISLANDS.	CAMETA.
	FINE.	COARSE.	
January	74@82	56@65	71@76 45@50 45@50
February	66@76	48@56	65@74 41@46 42@46
March	70@83	48@59	68@80 41@43 41@48
April	78@84	55@58	75@80 42@44 44@48
May	83@94	58@65	80@90 43@48 48@57
June	88@94	62@65	84@89 43@46 53@56
July	91@96	64@67	83@88 42@46 52@55
August	89@96	65@66	83@90 43@46 51@53
September	96@103	69@73	90@96 44@48 51@53
October	103@113	72@82	95@104 47@54 53@56
November	112@130	82@100	104@121 54@70 56@72
December	115@123	89@94	112@116 52@61 57@64

AVERAGE PRICES.

1908	93¼	67½	88¼	47½	52
1907	100¼	88	104½	61¾	65½
1906	124½	93½	121	70	72½
1905	128½	93½	125½	72	74
1904	113¼	87¾	110	65½	65½
1903	94¾	70½	91¼	57¾	50½
1902	70	60¾	73	47¾	50½

NEW YORK PRICES FOR DECEMBER (NEW RUBBER).

	1908.	1907.	1906.
Upriver, fine	15.01.23	8.20.86	1.22.01.24
Upriver, coarse	9.94	9.60.72	9.60.98
Islands, fine	1.10.11.16	7.20.70	1.18.01.20
Islands, coarse	5.20.61	4.10.50	7.10.73
Cameta	57@.64	43@.48	72@.74

Rubber Exports from the Amazon, 1908.

The following figures are compiled from tables supplied to THE INDIA RUBBER WORLD by Messrs. Scholz, Hartje & Co., of Pará (indicating weights in kilograms):

POINTS OF SHIPMENT.

FROM—	Fine.	Medium.	Coarse.	Caucho.	Total.
Pará	8,57,341.12	1,311,000	5,707,975	2,018,159	17,813,666
Manáos	9,521,110	1,871,692	2,434,735	4,188,149	17,985,986
Iquitos	881,895	34,868	208,048	734,406	1,859,217
Total	19,275,517	3,116,680	8,350,758	6,940,714	37,683,669
[* Including Macaotiara.]					

DESTINATION.

TO—	Fine.	Medium.	Coarse.	Caucho.	Total.
United States	8,003,947	1,711,636	5,473,429	1,866,388	17,145,400
Europe	11,181,800	3,110,680	2,847,329	5,071,326	22,551,135
Total	19,275,517	4,822,316	8,320,758	6,937,714	37,683,669

London.

LONDON, January 29.—During the fortnight past a fair business has been doing privately in plantation grades at somewhat higher figures. At to-day's auction, however, there were evidences of a setback, and Pará was quoted at about the same as at the last auction. There was a good demand for Plantation, however, at an advance over the last auction rates up to 1½d. The offerings totaled 45 tons, against 108 tons last sale, the proportion of finer

grades being less than usual. The highest figure realized for Plantation was 5s. 4¼d. [= \$1.31¼], for crepe. To-day's price for fine hard Pará, 5s. [= \$1.21 2/3].

United States Rubber Imports.

	1906.	1907.	1908.
United Kingdom.....pounds	10,603,382	6,886,621	11,805,484
Germany	3,878,823	4,021,055	3,616,766
Other Europe	9,509,074	8,187,430	7,822,099
Central America and British Honduras	1,106,618	1,160,252	797,033
Mexico	3,035,485	5,538,656	11,657,245
Brazil	34,329,523	36,454,988	38,028,444
Other South America.....	1,936,147	1,906,260	1,416,258
East Indies.....	2,557,128	1,455,489	1,123,073
Other Countries.....	171,071	42,540	23,072

Totals	67,907,251	68,653,291	76,289,474
Value	\$53,391,137	\$49,813,361	\$44,782,526
Average per pound.....	78.3 cents.	75.4 cents.	58.7 cents.
EXPORTS	3,753,462	4,102,838	3,708,012
Net Imports	64,153,789	64,550,453	72,581,462

OTHER IMPORTS.

Gutta-percha	pounds 34,169	502,722	155,131
Gutta-jelutong	18,164,293	33,679,951	16,640,322

Balata was not separately listed in the government statistics for calendar years before July 1, 1908; during the second half of the year 583,422 pounds were entered, of the average value of 42.3 cents.

Antwerp.

RUBBER ARRIVALS FROM THE CONGO.

JANUARY 19.—By steamer *Leopoldville*:

Bunge & Co.....(Société Générale Africaine)	kilos 48,200
Do	38,200
Do	2,300
Do	2,500
Do	4,800
Do	17,500
Do	1,700
Société Coloniale Anversoise.....(Belge du Haut Congo)	1,100
Do	72,500
Do	500
Do	6,700
Do	196,000

PARA RUBBER VIA EUROPE.

JAN. 22.—By the <i>Brasilia</i> =Hamburg:	POUNDS.
General Rubber Co.....	11,500
JAN. 25.—By the <i>Lucania</i> =Liverpool:	
Livesey & Co. (Coarse).....	5,000
JAN. 26.—By the <i>Pennsylvania</i> =Hamburg:	
W. L. Gough Co. (Fine).....	13,500
Livesey & Co. (Coarse).....	29,000
JAN. 27.—By the <i>Pallanza</i> =Hamburg:	
W. L. Gough Co. (Fine).....	11,000
FEB. 1.—By the <i>Arabic</i> =Liverpool:	
Livesey & Co. (Fine).....	17,000
Livesey & Co. (Coarse).....	5,000
FEB. 2.—By the <i>Bovic</i> =Liverpool:	
Poel & Arnold (Coarse).....	4,000
FEB. 3.—By the <i>Zeeland</i> =Antwerp:	
W. L. Gough Co.....	11,500
FEB. 5.—By the <i>Majestic</i> =London:	
Poel & Arnold (Coarse).....	22,500
FEB. 5.—By the <i>Waldsee</i> =Hamburg:	
New York Commer. Co. (Fine).....	15,000
New York Commer. Co. (Coarse).....	28,000
FEB. 8.—By the <i>Alliance</i> =Mollendo:	
W. R. Grace & Co. (Cauch).....	16,000
FEB. 11.—By the <i>Samlana</i> =Antwerp:	
Rubber Trading Co. (Fine).....	9,000
FEB. 15.—By the <i>Patricia</i> =Hamburg:	
George A. Alden & Co. (Coarse).....	11,500
FEB. 16.—By the <i>Amerika</i> =Hamburg:	
New York Commercial Co. (Fine).....	13,500
FEB. 18.—By the <i>Clyde</i> =Mollendo:	
New York Commercial Co. (Fine).....	7,500
FEB. 17.—By the <i>Georgia</i> =Liverpool:	
Edmund Reeks & Co. (Fine).....	18,000
Edmund Reeks & Co. (Coarse).....	9,000
Edmund Reeks & Co. (Cauch).....	2,000
Nuess Hesslein & Co. (Fine).....	11,500
Nuess Hesslein & Co. (Cauch).....	6,000
	46,500

OTHER NEW YORK ARRIVALS.

CENTRALS.

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

JAN. 23.—By the <i>Altus</i> =Colombia:	
Kunhardt & Co.....	3,500
L. Hageman & Co.....	3,000
JAN. 23.—By the <i>Merida</i> =Frontera:	
Harburger & Stack.....	9,000
E. Steiger & Co.....	6,000
A. Klipstein & Co.....	2,500
H. Marquard & Co.....	2,500
George A. Alden & Co.....	1,000
American Trading Co.....	1,000
	22,000

Antwerp.

RUBBER STATISTICS FOR JANUARY.

DETAILS.	1909.	1908.	1907.	1906.	1905.
Stocks, Jan. 1.....kilo	505,735	1,006,894	658,184	735,187	541,361
Arrivals in January.....	283,955	547,968	317,692	605,029	325,081
Congo sorts	186,189	504,451	242,806	414,613	239,709
Other sorts	97,766	43,517	74,886	190,416	85,372
Aggregating	879,690	1,554,862	975,876	1,340,216	866,442
Sales in January	281,913	294,853	357,226	821,521	567,094
Stocks, January 31.....	597,777	1,260,009	618,650	518,695	299,348
Arrivals since Jan. 1.....	283,955	547,968	317,692	605,029	325,081
Congo sorts	186,189	504,451	242,806	414,613	239,709
Other sorts	97,766	43,517	74,886	190,416	85,372
Sales since Jan. 1.....	281,913	294,853	357,226	821,521	567,094

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

FEBRUARY 6.—By the Steamer *Benedict*, from Manãos and Pará:

IMPORTERS.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.
New York Commercial Co.	400,300	101,600	116,000	113,800=	731,700
A. G. Morse & Co.....	280,100	62,700	157,600	74,900=	575,300
Poel & Arnold.....	165,600	57,700	171,100	92,700=	487,100
General Rubber Co.....	55,700	24,000	80,200	32,800=	192,700
Hagemeyer & Brunn.....	24,000	.....	30,400	.....=	54,400
C. P. dos Santos.....	25,800	2,700	5,000	16,700=	50,200
Wm. E. Peck & Co.....	36,000	.....	13,200	.....=	49,200
Edmund Reeks & Co.....	5,400	1,000	16,400	.....=	22,800
G. Amsinck & Co.....	10,300	1,700	300	2,300=	14,600
TOTAL	1,003,200	251,400	590,200	333,200=	2,178,000

FEBRUARY 17.—By the Steamer *Cearense*, from Manãos and Pará:

A. G. Morse & Co.....	681,400	112,600	154,100	123,700=	1,071,800
New York Commercial Co.	145,200	30,500	93,700	123,900=	393,300
Poel & Arnold.....	186,900	40,400	102,400	17,700=	347,400
Lawrence Johnson & Co...	38,200	6,400	20,600	37,000=	102,200
Hagemeyer & Brunn.....	22,100	.....	48,200	.....=	70,300
G. Amsinck & Co.....	22,300	4,100	2,000	11,600=	40,000
Edmund Reeks & Co.....	16,100	2,100	18,500	.....=	36,700
General Rubber Co.....	12,100	2,500	10,600	9,600=	34,800
C. P. dos Santos.....	15,700	1,400	7,900	.....=	25,000
TOTAL	1,140,000	200,000	458,000	323,500=	2,121,500

POUNDS.

JAN. 25.—By the <i>El Rio</i> =Galveston:	
Continental-Mexican Rubber Co.....	*77,000
JAN. 25.—By the <i>Lucania</i> =Liverpool:	
George A. Alden & Co.....	33,500
JAN. 25.—By the <i>New York</i> =London:	
Poel & Arnold.....	7,000
JAN. 26.—By the <i>Panama</i> =Colon:	
J. Brandon & Bros.....	15,500
Jose Julia & Co.....	2,000
Meyer & Hecht.....	1,500
Wessels Kulemkamp Co.....	1,000
Piza Nephews Co.....	1,000
De Lima Cortessa Co.....	1,000
G. Amsinck & Co.....	1,000
JAN. 26.—By the <i>Augusta Victoria</i> =Hamburg:	
J. H. Rossbach & Bros.....	9,000
JAN. 27.—By the <i>El Dia</i> =Galveston:	
For Canada.....	*6,500
JAN. 30.—By the <i>Morro Castle</i> =Vera Cruz:	
Graham Hinkley Co.....	2,000
H. Marquard & Co.....	1,000
JAN. 30.—By the <i>Segismund</i> =Colombia:	
Seanz & Co.....	1,500
Maillard Coppell Co.....	1,500
G. Amsinck & Co.....	1,500
A. Held	1,000
FEB. 1.—By the <i>Comus</i> =New Orleans:	
Eggers & Heinlein.....	2,500
G. Amsinck & Co.....	1,500
FEB. 3.—By the <i>Advance</i> =Colon:	
G. Amsinck & Co.....	6,500
F. Lapeirde.....	6,000
Roldau & Van Sickle.....	5,000
Simon Elais & Co.....	3,500
Demarest Brothers.....	3,000
L. Johnson & Co.....	1,000
American Trading Co.....	3,000
A. Rosenthal & Sons.....	1,000
Mecke & Co.....	1,000
Elmenhorst & Co.....	1,000
FEB. 3.—By the <i>El Norte</i> =Galveston:	
Continental-Mexican Rubber Co.....	*40,000
FEB. 4.—By the <i>Siberia</i> =Greystown:	
G. Amsinck & Co.....	15,000
Jose Julia & Co.....	11,000
Mecke & Co.....	1,500
De Lima Cortessa Co.....	1,000
Brandon & Bros.....	1,000
FEB. 5.—By the <i>Hugin</i> =Tampico:	
New York Commercial Co.....	*125,000
Edward Maurer.....	*125,000
Poel & Arnold.....	*35,000

POUNDS.

FEB. 5.—By the <i>El Mar</i> =Galveston:	
Continental-Mexican Rubber Co..	*125,000
For Canada.....	*15,000
FEB. 6.—By the <i>Mexico</i> =Frontera:	
Harburger & Stack.....	3,500
General Export Commercial Co..	2,000
E. Steiger & Co.....	1,500
A. Klipstein & Co.....	1,000
FEB. 8.—By the <i>Afghan Prince</i> =Bahia:	
Poel & Arnold.....	38,000
J. H. Rossbach & Bros.....	22,000
A. Hirsch & Co.....	10,000
FEB. 8.—By the <i>El Siglo</i> =New Orleans:	
Central American Trading Co.....	3,000
FEB. 8.—By the <i>Vigilancia</i> =Tampico:	
Edward Maurer.....	*190,000
Poel & Arnold.....	*35,000
J. A. Kendall Co.....	*2,000
FEB. 8.—By the <i>Alliance</i> =Colon:	
Brandon & Bros.....	11,500
G. Amsinck & Co.....	4,000
Demarest Bros. Co.....	4,000
Simon Elais & Co.....	5,000
Maitland Coppell Co.....	2,500
George A. Alden & Co.....	2,500
Fidanque Bros.....	1,500
Piza Nephews Co.....	1,000
FEB. 11.—By the <i>Prins Joachem</i> =Colon:	
A. Santos & Co.....	12,500
Mecke & Co.....	4,500
A. Rosenstein & Co.....	2,500
L. Johnson & Co.....	1,500
G. Amsinck & Co.....	2,500
Eggers & Heinlein.....	1,500
M. Blancha Co.....	1,000
FEB. 13.—By the <i>Colon</i> =Colon:	
Brandon & Bros.....	3,000
G. Amsinck & Co.....	1,500
Mecke & Co.....	1,000
Meyer & Hecht.....	1,000
FEB. 13.—By the <i>Esperanza</i> =Frontera:	
Harburger & Stack.....	7,000
E. Steiger & Co.....	5,000
H. Marquard & Co.....	2,500
General Export & Commission Co.	2,000
FEB. 15.—By the <i>Patricia</i> =Hamburg:	
Poel & Arnold.....	*65,000
FEB. 15.—By the <i>Monus</i> =New Orleans:	
Ari Rotholz	5,000
Manhattan R. Mfg. Co.....	2,500
A. Rosenstein & Co.....	3,000
Wessels, Kulemkamp Co.....	1,000
	11,500

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it DOES NOT BLOW UNDER CURE.

WRITE FOR PRICES.

Massachusetts Chemical Co., Walpole, Mass.

Sole Factors.
WALPOLE RUBBER WORKS
WALPOLE, MASS.
ELECTRIC INSULATION LABORATORY

WE ARE OFFERING SCRAP RUBBER AT LOW PRICES



Theodore Hofeller & Company
BUFFALO, N. Y.



WE SOLICIT YOUR INQUIRIES

Rubber Boot and Shoe Manufacturers

- ☐ Would you like to prevent the cracking of your rubbers?
- ☐ Our MALTHA HYDRO-CARBON retains its pliability at zero weather.
- ☐ Drop us a line, and with pleasure we'll send you a working sample gratis.

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CHEMICAL IN THE
RUBBER TRADE

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American Vulco'e Co., 161 Summer St., Boston, Mass.

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Prepared from high grade "Parra" Guayule, guaranteed uniform, washed and dried, ready for use. Vulcanizes easily without special compounding.

CONTRACTS MADE FOR REGULAR WEEKLY
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For Samples and Quotations apply to

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Sole Representative of the MADERO interests in Mexico,
Largest Producers of Guayule Rubber, Operating Nine Factories.

<p> Feb. 16. By the <i>Amerika</i>—Hamburg: P. & A. Arnold 25,000 Feb. 17. By the <i>Citro</i>—Bahia: New York Commercial Co. 22,500 J. H. Rosback & B. S. 25,000 P. & A. Arnold 1,000 Feb. 17. By the <i>Santa</i>—Greenwood: G. Musick & Co. 7,000 A. S. S. & Co. 5,500 P. & A. Arnold 1,500 A. M. C. & S. S. 1,500 Henry Mann & Co. 1,500 A. R. S. & S. S. 1,000 Feb. 18. By the <i>Brasilia</i>—Lisbon: Continental-Mexican Rubber Co. *290,000 Edwards & Mather *125,000 Poel & Arnold *35,000 Feb. 18, 1900 *125,000 Feb. 19. By the <i>Lucania</i>—Colon: Branden & B. S. 11,500 R. Fabian & Co. 2,000 A. Held 1,000 Piza, Nephews, Co. 1,000 Henry Mann & Co. 1,000 AFRICANS. Jan. 12. By the <i>Brasilia</i>—Hamburg: A. T. Morse & Co. 10,000 Jan. 25. By the <i>Lucania</i>—Liverpool: George A. Alden & Co. 68,000 H. A. Gould & Co. 8,000 Livesey & Co. 6,500 Jan. 25. By the <i>Balta</i>—Liverpool: General Rubber Co. 68,000 Rubber Trading Co. 5,500 Poel & Arnold 7,000 Jan. 26. By the <i>Montevideo</i>—Lisbon: General Rubber Co. 45,000 Jan. 26. By the <i>Pennsylvania</i>—Hamburg: A. T. Morse & Co. 22,500 W. L. Gough Co. 33,500 Poel & Arnold 20,000 George A. Alden & Co. 20,000 General Rubber Co. 5,000 Rubber Trading Co. 3,500 Jan. 27. By the <i>Pallanza</i>—Hamburg: Rubber Trading Co. 15,000 W. L. Gough Co. 5,000 Jan. 29. By the <i>Kronland</i>—Antwerp: A. T. Morse & Co. 11,500 Jan. 29. By the <i>Augusta</i>—Hamburg: Livesey & Co. 15,000 General Rubber Co. 15,000 Rubber Trading Co. 11,000 George A. Alden & Co. 11,500 Poel & Arnold 5,500 Feb. 1. By the <i>Balta</i>—Liverpool: General Rubber Co. 35,000 A. T. Morse & Co. 50,000 </p>	<p> Feb. 3. By the <i>Zeehina</i>—Antwerp: P. & A. Arnold 11,500 W. L. Gough Co. 11,000 W. H. Stiles & Co. 5,000 Feb. 3. By the <i>Victorius</i>—Lisbon: General Rubber Co. 25,000 Feb. 5. By the <i>Minerva</i>—London: Livesey & Co. 24,000 Feb. 5. By the <i>H. S. S.</i>—Hamburg: A. T. Morse & Co. 11,500 George A. Alden & Co. 7,000 Rubber Trading Co. 45,000 Feb. 6. By the <i>Campana</i>—Liverpool: General Rubber Co. 25,000 George A. Alden & Co. 5,000 Earle Brothers 3,500 Feb. 8. By the <i>Citro</i>—Liverpool: Poel & Arnold 7,000 Feb. 11. By the <i>Samland</i>—Antwerp: A. T. Morse & Co. 30,000 Joseph Cantor 15,000 Raw Products Co. 5,000 Rubber Trading Co. 9,000 Henry A. Gould & Co. 64,000 Feb. 15. By the <i>St. Paul</i>—London: Poel & Arnold 5,500 Livesey & Co. 13,500 Feb. 15. By the <i>Patric</i>—Hamburg: A. T. Morse & Co. 22,000 Rubber Trading Co. 11,000 Livesey & Co. 2,500 George A. Alden & Co. 2,000 Feb. 16. By the <i>Victorius</i>—Lisbon: General Rubber Co. 25,000 Feb. 16. By the <i>Amerika</i>—Hamburg: General Rubber Co. 5,000 Rubber Trading Co. 5,000 Feb. 17. By the <i>George</i>—Liverpool: General Rubber Co. 75,000 Poel & Arnold 33,500 Livesey & Co. 2,500 Rubber Trading Co. 5,000 Feb. 18. By the <i>Gothland</i>—Antwerp: A. T. Morse & Co. 22,500 </p>	<p> Feb. 18. By the <i>Colombia</i>—Colon: A. T. Morse & Co. *13,500 Feb. 18. By the <i>Maia</i>—Lisbon: New York Commercial Co. *15,000 Livesey & Co. *6,500 Feb. 18. By the <i>St. Paul</i>—London: Heabler & Co. 15,000 W. T. Gough Co. 15,000 A. T. Morse & Co. 15,000 Feb. 18. By the <i>St. Paul</i>—London: A. T. Morse & Co. *4,500 Feb. 18. By the <i>St. Paul</i>—London: New York Commercial Co. *15,000 Poel & Arnold *16,000 A. T. Morse & Co. *15,000 GUTTA-JELUTONG. Jan. 25. By the <i>Waglinde</i>—Singapore: Heabler & Co. 75,000 G. Weschur & Co. 130,000 Feb. 3. By the <i>Waglinde</i>—Singapore: Heabler & Co. 15,000 George A. Alden & Co. 25,000 W. L. Gough Co. 35,000 Poel & Arnold 705,000 GUTTA-PICHA. Jan. 25. By the <i>Waglinde</i>—Singapore: Heabler & Co. 33,500 Winter & Smillie 35,500 Jan. 26. By the <i>Pennsylvania</i>—Hamburg: L. Oppenheim 10,000 Feb. 3. By the <i>Waglinde</i>—Singapore: Heabler & Co. 25,000 George A. Alden & Co. 5,000 BALATA. Feb. 6. By the <i>Grenada</i>—Trinidad: J. A. Pauli & Co. 3,000 Frame & Co. 2,500 Middleton & Co. 1,000 6,500 </p>
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CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK, JANUARY.

Imports:	Pounds.	Value.
India rubber	6,007,658	\$5,230,574
Balata	487,775	226,055
Gutta percha	9,873	5,084
Gutta jelutong (Peninsular)	1,412,842	48,474
Total	8,048,148	\$5,511,087
Exports:	Pounds.	Value.
India rubber	13,050	\$7,875
Balata	313,000	125,476
Reclaimed rubber	7,103	935
Rubber scrap imported	1,816,508	\$160,875

EAST INDIAN.

[*Denotes plantation rubber.]

<p> Jan. 25. By the <i>Waglinde</i>—Singapore: Otto Isenstein & Co. 10,000 George A. Alden & Co. 15,000 Heabler & Co. 9,000 Jan. 25. By the <i>Minnap</i>—London: Livesey & Co. 3,500 Feb. 1. By the <i>St. Louis</i>—London: A. T. Morse & Co. *15,000 </p>	<p> Jan. 25. By the <i>Waglinde</i>—Singapore: Otto Isenstein & Co. 10,000 George A. Alden & Co. 15,000 Heabler & Co. 9,000 Jan. 25. By the <i>Minnap</i>—London: Livesey & Co. 3,500 Feb. 1. By the <i>St. Louis</i>—London: A. T. Morse & Co. *15,000 </p>
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PARA EXPORTS OF INDIA-RUBBER, SECOND HALF OF 1908 (IN KILOGRAMS).

NEW YORK.					EUROPE.					TOTAL.	
EXPORTERS.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	TOTAL.
Schneider, Gruner & Co.	222,700	68,785	423,163	34,169	848,787	431,008	55,783	85,143	68,096	641,020	1,489,807
Adelbert H. Alden.	406,055	103,887	265,640	128,270	694,452	251,052	45,415	115,639	27,183	440,189	1,344,641
Scholz, Hartje & Co.	297,272	49,222	254,777	6,095	517,366	429,259	24,681	47,060	9,878	490,878	1,008,244
Gordon & Co.	311,038	10,137	499,797	660	850,602	60,690	10,730	5,280	33,944	110,644	961,246
E. Pinto Alves & Co.	217,430	1,700	344,850	.....	563,980	267,750	.....	100,980	.....	368,730	932,710
J. Marques	217,600	25,500	276,210	660	519,970	185,476	15,076	92,187	2,640	295,379	815,349
Pires, Teixeira & Co.	104,550	.....	94,050	.....	198,600	129,200	.....	73,020	.....	203,120	401,720
De Lagotellerie & Co.	98,905	17,510	210,210	43,430	350,115	9,037	.....	1,428	1,000	11,490	361,609
R. O. Ahlers & Co.	13,839	.....	1,210	.....	15,049	150,498	.....	20,263	60,375	231,136	246,185
R. Suarez & Co.	9,930	1,165	1,406	588	13,059	143,410	71	29,490	46,395	219,366	232,425
Guilh. Aug. de Miranda Co.	32,640	5,600	1,800	.....	40,040	55,007	7,840	2,550	102	65,409	105,539
Braga Sobr. & Co. ....	.....	.....	.....	.....	.....	1,600	.....	780	1,624	4,004	4,004
Mello & Co. ....	.....	.....	3,300	.....	3,300	.....	.....	.....	.....	3,300	3,300
Leite & Co. ....	.....	.....	.....	.....	.....	122	60	.....	1,764	1,967	1,967
Singlehurst, Brocklehurst & Co. ....	.....	.....	.....	.....	.....	312	.....	.....	.....	312	312
Sundries .....	.....	.....	.....	.....	.....	100	.....	10,734	6,750	10,884	10,884
Itacoatiara, direct 2295,324	528,378	579,686	205,363	3,608,751	1,806,720	201,732	200,000	560,300	2,948,701	6,557,512	8,365,024
Manaos, direct 2,982	.....	916	4,559	8,457	265,172	15,942	97,229	441,558	819,901	828,358	828,358
Iquitos, direct 2,982	.....	916	4,559	8,457	265,172	15,942	97,229	441,558	819,901	828,358	828,358
Total	4,240,925	840,854	2,956,985	403,764	8,442,528	4,287,022	468,282	900,071	1,268,262	6,935,647	15,375,165

PARA EXPORTS OF INDIA-RUBBER, JANUARY, 1909 (IN KILOGRAMS).

NEW YORK.					EUROPE.					TOTAL.	
EXPORTERS.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	TOTAL.
Gruner & Co.	71,662	18,599	122,657	2,816	215,734	153,999	15,678	53,399	13,000	220,990	453,703
Adelbert H. Alden.	114,207	22,297	60,664	31,600	228,768	34,154	8,222	10,419	15,403	68,198	266,966
R. Suarez & Co. ....	.....	.....	.....	.....	.....	213,974	1,891	14,107	62,023	291,095	201,095
Scholz, Hartje & Co.	53,324	9,299	29,415	47,49	94,714	4,123	2,279	.....	68,334	100,718	195,112
E. Pinto Alves & Co.	31,620	.....	60,720	.....	92,340	50,830	.....	18,480	.....	69,310	161,120
R. O. Ahlers & Co.	17,541	.....	1,160	.....	18,701	49,489	.....	10,792	68,750	124,030	142,740
J. Marques 44,200	1,360	36,208	.....	81,828	23,630	3,390	22,515	709	50,344	104,172	104,172
Pires, Teixeira & Co. 22,440	.....	21,450	.....	43,890	21,420	.....	10,470	.....	40,890	84,780	84,780
Gordon & Co. 5,440	850	36,960	.....	44,240	21,412	4,932	7,447	.....	36,592	84,832	84,832
Guilh. Aug. de Miranda Co. 4,885	829	1,295	.....	7,009	17,756	1,544	4,409	.....	24,249	42,588	42,588
Mello & Co. 16,320	3,315	556	.....	20,191	.....	.....	7,682	2,627	10,309	30,500	30,500
De Lagotellerie & Co. ....	.....	.....	6,600	.....	6,600	.....	.....	.....	.....	6,600	6,600
Alves Braga & Co. ....	.....	.....	.....	.....	5,522	.....	.....	.....	.....	5,522	5,522
Braga Sobrinho & Co. ....	.....	.....	.....	.....	.....	.....	3,300	.....	3,300	3,300	3,300
Pinto Fernandes & Co. 349	.....	.....	.....	670	.....	.....	.....	.....	.....	670	670
Itacoatiara, direct 641,377	161,066	256,811	276,255	1,335,509	738,071	101,898	110,115	282,487	1,321,177	2,568,080	2,568,080
Manaos, direct 13,642	511	4,420	4,217	22,790	162,339	14,549	69,143	200,081	506,103	528,893	528,893
Iquitos, direct 13,642	511	4,420	4,217	22,790	162,339	14,549	69,143	200,081	506,103	528,893	528,893
Total, January	1,036,998	218,053	639,306	324,149	2,218,506	1,521,113	154,401	365,351	775,642	2,816,507	503,013



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MARCH 1, 1909.

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Rubber Scrap Prices.

LATE New York quotations prices paid by consumers for carload lots, per pound—are for most grades lower than last month:

Old rubber boots and shoes—domestic.....	8¼@ 8¼
Old rubber boots and shoes—foreign.....	7¾@ 7¾
Pneumatic bicycle tires.....	5½@ 6
Automobile tires.....	5½@ 6
Solid rubber wagon and carriage tires.....	7 @ 7½
White trimmed rubber.....	9½@ 10
Heavy black rubber.....	5 @ 5¼
Air brake hose.....	3½@ 3¾
Garden hose.....	2 @ 2¼
Fire and large hose.....	2¾@ 3
Matting.....	1¼@ 1½

United States Rubber Co.'s Shares.

TRANSACTIONS on the New York Stock Exchange for four weeks, ending February 20:

COMMON STOCK.

Week January 30	Sales 1,600 shares	High 33	Low 31
Week February 6	Sales 700 shares	High 32½	Low 31½
Week February 13	Sales 450 shares	High 32	Low 31½
Week February 20	Sales 1,450 shares	High 31½	Low 30½

For the year—High, 34½, Jan. 2; Low, 30½, Feb. 19.
Last year—High, 37½; Low, 17½.

FIRST PREFERRED STOCK.

Week January 30	Sales 11,008 shares	High 104	Low 98
Week February 6	Sales 2,035 shares	High 103½	Low 101
Week February 13	Sales 725 shares	High 102½	Low 101½
Week February 20	Sales 1,770 shares	High 104	Low 103

For the year—High, 107, Jan. 12; Low, 98, Jan. 29.
Last year—High, 108; Low, 76.

SECOND PREFERRED STOCK.

Week January 30	Sales 200 shares	High 70	Low 70
Week February 6	Sales 100 shares	High 69¼	Low 69¼
Week February 13	Sales 200 shares	High 69½	Low 69¾
Week February 20	Sales 150 shares	High 68½	Low 68½

For the year—High, 73¾, Jan. 5; Low, 68½, Feb. 18.
Last year—High, 58¾; Low, 25¾.

Liverpool.

WILLIAM WRIGHT & Co., report [February 1]:

Fine Pará.—Influenced by heavy Pará receipts, prices have declined somewhat, but the undertone is very firm, and considerably more business would have taken place had sellers been willing to operate. The closing of several American shoe factories next month is expected to be fully balanced by the state of the motor industry. Pará receipts, though large, are still 800 tons short of the estimate; and it is still persistently rumored that present heavy receipts will be at the expense of the later months of the crop. Under all circumstances we repeat our advice of last month that a basis of 5s. for hard fine is a safe one for manufacturers to operate from. Closing value: Upriver spot, 5s. 1d. [= \$1.23.7]; Islands, 4s. 10½d. [= \$1.18.6].

African Rubbers.

NEW YORK STOCKS (IN TONS).

January 1, 1908.....	156	August 1, 1908.....	145
February 1.....	224	September 1.....	133
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A PERSONAL LOSS TO BLUEFIELDS.

THE death occurred recently, at his home in Allston, Massachusetts, of George D. Emery, in his seventy-fourth year. He had resigned a few months before from the presidency of George D. Emery Co. (Chelsea, Mass.), whose business is the export of mahogany and cedar from Bluefields, Nicaragua, and of which he had been in charge for a quarter century. Mr. Emery was mentioned in THE INDIA RUBBER WORLD several years ago in connection with forming a plantation of rubber in Colombia, which was destroyed at an early age by an unusual overflow of the river on which it was located. The death of Mr. Emery was generally deplored at Bluefields, where formal action was taken expressing the regret of the community. This was joined in by Mr. Jules A. Belanger, of Belanger's, Incorporated, who are rubber planters, and other leading citizens, including Frederick Beer, president of the New Orleans and Central American Trading Co., Limited. Mr. Beer, a German by birth, who had been at Bluefields since 1884, trading in rubber and gold and helping to found the business of which he was latterly the head, has died since. By the way, Mr. Belanger, in whose rubber planting business some New Yorkers are interested, was early in the year seriously ill, but later reports point to his full recovery.

MILK ON RUBBER BOOTS.—A suggestion that may be new to some readers appears in the latest catalogue of the Boston Rubber Shoe Co.: "Milk left to dry on rubber boots will decompose the rubber."

DO YOU KNOW

at you are burning under your boilers? Yes. Coal, but is it the right kind of coal? Let analyze it for you, and then you will know.
FRED'K J. MAYWALD, F. C. S.,
 Consulting Chemist,
 Pine St., 'Phone, 823 John, New York City.

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 THE INSIDE.



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BUSINESS AND THE TARIFF.

THE tariff question again has been brought prominently to public notice through the calling of an extraordinary session of the United States congress for its consideration. The last general election revealed a popular demand for a revision of the existing schedules, but not to the extent of showing just what was wanted. President Taft deserves commendation for the promptness with which he has moved to bring the question to a head, and it is no less commendable that the opposing parties which make up the membership of the national legislature have agreed to sink partisan differences on other scores, in order to get out of the way as speedily as possible the obstacle to business activity which pending tariff legislation always causes.

Even if no change in principle is involved, it becomes necessary now and then to revise tariff schedules, and the last revision dates back twelve years. But apart from this, the business depression which has been experienced throughout the world for more than a year past has affected governmental no less than personal or corporation revenues, and a deficit in the national treasury needs to be provided against. As President Taft has pointed out, if the new tariff schedules should not provide enough revenue for the near future, the congress faces the neces-

sity of devising extraordinary sources of income for possible requirements of the government.

The new tariff bill which has been introduced at Washington appears in no wise to differ in principle from the existing statute, and only time can tell what may be the effect, either upon revenues or upon general business, of such changes from the schedules of 1897 as the congress may approve. But whatever form the new tariff law may take, business is certain to be retarded while the legislators are in session, and the whole industrial and commercial world will welcome the earliest possible completion of their task.

One encouraging fact is that tariff schedules and regulations are getting to be regarded as of less vital importance than formerly, when, in political contests, no other question was so much dwelt upon by rival party workers. The rubber industry certainly is an important one, but we have seen, during the four months of hearings on the tariff schedules, preliminary to the congress session, almost no evidence of interest in the subject on the part of the leading rubber men. They cannot fail to be affected, however, by anything which may lead to a suspension of the building for the future which is essential to prosperity in any nation. Ultimately we may expect to see people generally cease to regard the tariff question as the one great factor in national prosperity.

Apart from the temporary obstacle to business pointed out here, the outlook is good. For that matter, it always is good for whoever can look ahead. The world advances nowadays more rapidly than in earlier times, but the various elements of growth do not always keep the same pace, so that occasional readjustments become necessary. Such a readjustment has been in progress of late—not for the United States alone, but for the civilized world—and an item of the readjustment is modifying the American tariff schedules. But it is only a fly on the cartwheel which represents the world's commercial progress. The cartwheel itself is all right.

THE GREATER TIRE TROUBLES.

THERE are other tire troubles than those which take tires to the repair shop. Some of these are dealt with in detail elsewhere in this issue. Take the matter of patents. A patents a tire and B makes the tire and C buys and uses it. Somebody goes into court with a disputed question regarding the patent, and neither A, B, nor C knows "where he is at" until—not one decision, but—many decisions have been rendered. Didn't the Dunlop company establish the validity of their patent in the British house of lords, the final court of appeals in that country? Yet in one year thereafter the Dunlop company were a party to not less than 162 legal actions in respect of alleged infringements. On the day of its expiration the company gleefully burned the troublesome patent, their chairman declaring his pleasure at the end of the troubles it had caused, since which time they have

prospered without so-called patent "protection." But the Dunlop tire company were not the only people concerned. The hotly contested litigation over their tire is recognized as having led to the rewriting of British patent law, on account of the many new points raised by eminent opposing counsel in the suits referred to.

No less has the noiseless, smooth running, resilient rubber tire affected patent litigation in America, though in a different way. At least there is pending at Washington a bill, likely to be passed, to reform the practice in the courts having jurisdiction in patent cases. To relieve the United States supreme court of the interminable mass of litigation over patents and some other things, courts of appeals were established in different parts of the country for reviewing cases in which the inferior federal courts had original jurisdiction. In other classes of litigation the new system has worked satisfactorily, but not in the matter of patents.

In the case of an American tire which attained popularity the owners of the patent brought action against alleged infringers in the federal courts of first instance in more than one "circuit," and with varying results. The patent would be declared valid by the court of appeals of one circuit and not in another. It would appear that now anyone can manufacture the tire in a circuit where the patent was held invalid and send his goods into all of the other circuits. Even if the United States supreme court should take up the case and declare the patent valid, an infringer who won in a single circuit where the patent was declared invalid may still send his goods all over the United States as if he were a licensee under the patent. As we have said, the localized federal courts have worked successfully otherwise, as usually cases come before them involving questions between two individuals or corporations with purely local interests. But patent rights extend all over the country, with the continual possibility of such trouble as has been pointed out in the case of a certain tire, and it appears that a special Court of Patent Appeals, with jurisdiction throughout the United States, is to be the result.

But patent troubles do not end the list. The importer at New York of an automobile and of four unmounted tires of the proper size for it protested against paying duties on the tires as "automobile parts" on the ground that they were "manufactures of india-rubber," on which the tariff is lower. (1) The port collector insisted that the whole importation constituted one complete automobile, and was dutiable as such. (2) The customs appraisers, appealed to, supported the collector. (3) The local federal court took a different view. (4) The court of appeals for such cases provided reversed the lower court, one judge of the three dissenting.

For the time being it is law that whoever imports an unfired automobile, but in the same invoice receives four tires adapted to that automobile, must pay duty on one complete machine, even though the whole had never been assembled before shipment. This is law at New York, at

least, but suppose the importation should be at Boston, or Savannah, or San Francisco, then there would have to be new decisions; they are in different federal court jurisdictions. Of course, the matter might be carried to the United States supreme court, whose jurisdiction would apply alike all over the land, but this is only prolonging trouble.

It will not be disputed, we believe, that there are serious tire troubles beyond punctures and blow-outs.

PLANTATION RUBBER CONDITIONS.

THE system of selling plantation rubber ahead under contract, which was introduced in Ceylon last year, proved so satisfactory that no fewer than sixteen planting companies are reported to have contracted to deliver their 1909 product of rubber to local merchants at a fixed price. The planter therefore need have no concern about fluctuations in the market for a year to come; it is only necessary to deliver his rubber to responsible houses, who undertake to pay a stipulated price without regard to London or New York market conditions. The fact that such a system obtains is evidence that rubber cultivation is regarded in the Far East as having reached a firm stage. The producer knows in advance about what his rubber will cost him, and the buyer trusts his own judgment as to the market for a year to come. It is worth while to note that the contract price for plantation rubber (exclusive of scrap) laid down at Colombo is equivalent to \$1.20, gold, per pound. This is about the prevailing price for new Islands fine Pará, and it may be inferred that the Colombo merchants count on something like \$1.30 as the ruling London price for plantation grades.

The total exports of plantation rubber from Ceylon and Malaya during 1908 appear to have reached 4,583,560 pounds, or 2,078 metric tons, and all indications point to a much larger production this year. It is scarcely more than a year since a gentleman widely regarded as an authority on rubber from every standpoint, writing on the subject at the invitation of a leading American magazine, fixed about 100 tons as the productive capacity of the Eastern plantations. This gentleman, by the way, is now busy reforming the city charter of New York, with a view to fitting it for future needs, and it is to be hoped that he will be more successful in forecasting municipal conditions than in the case of his rubber estimates.

All the large rubber planting companies may not show profits for the last business year comparable with some former periods. This is due to the fact that the rubber collected is not always sold within the business year during which it is produced. The reports for the past year, therefore, are based in part upon sales during the period of financial depression, while rubber produced later, and sold at much better prices, did not yield an income in time to be included in last year's reports.

THE FACT THAT CEYLON RUBBER PLANTERS are able to sell their crops to home merchants a year ahead at fixed prices puts them on a better plane than any agricultural interest elsewhere known to us.

SOME ENGLISHMEN HAVE INVESTED in a company to plant rubber in Florida, in the United States. But many Englishmen have become so enthusiastic over rubber that we should not be surprised to hear of their going in for plantations on the moon.

ONE INDICATION THAT UNCLE SAM is not so badly off financially just now is the fact that during the recent deliberations of the committee framing a new revenue bill no suggestion has been heard that an import duty might be placed on crude rubber.

THE HIGHER PRICES OF CRUDE RUBBER than prevailed during the last year may reasonably be regarded as pointing to a larger consumption, which is another way of saying that the condition of the industry on the whole is improving.

AUTOMOBILES FIGURE IN THE NEW AMERICAN TARIFF BILL, though they did not in the law enacted twelve years ago, which is only one illustration of why tariff schedules, if there must be tariff schedules, need to be revised now and then to keep them up to date.

WHILE THE BRITISH COLONIES IN THE EAST have taken the lead in rubber planting, it will require strenuous efforts to prevent the later enterprise of other countries from securing the position they now hold. As will be seen elsewhere in this paper, rubber is being planted in the colonies of the other European powers under conditions which promise important results.

THE PAST WINTER HAS SHOWN that early snows are not essential to the sale of rubber footwear. So long as there is any snow at all "rubbers" will be in demand, which shows what advance we have made since the time when it was regarded as an axiom that the absence of snow before New Year's spelled disaster to the rubber trade.

PARA, IN ADDITION TO SELLING RUBBER, also buys rubber, in spite of itself. At least all the recent public improvements made there, by foreign enterprise, by the way, involved the use in some shape of india-rubber.

IN SPITE OF THE PROGRESS OF WIRELESS TELEGRAPHY the building of ocean cables goes on at a rate which emphasizes the certainty that the native resources of gutta-percha are nearing exhaustion, when rubber must be substituted for insulation work in this field.

THE IMMINENT EXHAUSTION OF THE GUAYULE RUBBER SUPPLY causes no perturbation in Mexico. From the rate that new plants supposed to contain rubber are being discovered in that republic, it would seem that Mexico may long afford a field for the investment of outside capital that is not attracted by her mines of silver and gold.

TWO YEARS FROM NOW IS EARLY ENOUGH for the next international rubber exhibition which it is proposed to hold in London. The idea of holding the exhibiton is to be commended, however, and without doubt 1911 will witness an advance in rubber cultivation, and in other departments of the exhibiton, that will mark a great advance over the conditions which made the Olympia affair of last September such a success.

THE REPORTED OBJECTION OF SOME of the rubber manufacturing companies to their employes taking "an active part in politics"

presumably is not directed against the men voting, but against their seeking public office, and, if successful at the polls, filling the same while still on the factory pay rolls. But the fact that any of the companies have felt obliged to take such action is evidence that they have numbered among their employes some good citizens.

THE GROWTH OF THE UNITED STATES is illustrated, in a way, by the story printed on another page of the founding of a great Scottish india-rubber factory. The home field was supposed then to be overcrowded, and surplus capital went abroad to find a field for profitable investment. That condition exists no longer, but the United States have been obliged to borrow enormous sums from Europe for the development of opportunities on this side of the Atlantic.

IT IS NOT SO MANY YEARS SINCE an importer of India-rubber in New York was reported to have bought from a truckman from time to time some of his own stock, which his employe had thriftily abstracted from the firm's warehouse to his own ultimate large advantage. Ever since rubber began to be a high priced commodity the stealing of it has been an annoyance to be guarded against seriously. The proposition of the India-Rubber Manufacturers' Association of England that plantation rubber should be trade marked with officially registered brands seems to have merit apart from the idea of the author of the suggestion. That is to say, the advantage to the manufacturer of being able to buy raw material by brand is supplemented by the ability of manufacturers and dealers in raw rubbers to identify particular lots to an extent not possible before rubber began to be designated so definitely.

THE GUAYULE RUBBER INTEREST.

LUTHER BURBANK, described as "the plant wizard of California," was mentioned in the *Torreón Enterprise* of recent date as being then on the Hacienda de la Peña for the purpose of experimenting with Mexican plants. He is reported to be interested particularly in guayule. The *Enterprise* says: "Mr. Burbank is trying to find a way of making the shrub grow plentifully, and has planted several sections of ground with the guayule, trying different soil and moisture on the plants."

The new guayule rubber factory of the *Compañía Guayulera de Torreón, S. A.*, [see *THE INDIA RUBBER WORLD*, March 1, 1909, page 214] was inaugurated on March 1. A number of guests from Torreón and Gómez Palacio went over on a special train and were shown through the works, after which a banquet was served. The ceremonies were presided over by a representative of the governor of the State.

A press dispatch from Torreón, Mexico, dated March 11, says: "Japanese agents are here in competition with Americans buying up the rubber produced from the guayule plant, and are in most cases paying the best prices and getting most of the product."

?

IT would be interesting to know whether the approval of Scotland Yard has been asked for the employment of the Kempshall Pneumatic Tyre on public motor vehicles, and, if so, with what result.—*The Financial News, London, March 5, 1909.*

THE American Association of Commerce and Trade of Berlin, founded in 1903 and composed of German and American business firms, with the purpose of promoting trade relations between the two countries, in its latest Bulletin reports a successful past year with promising prospects for the current year. The secretary of the association and chairman of the editorial committee, Professor George S. Atwood, of Berlin, is widely known in the rubber trade, and has been a frequent contributor to *THE INDIA RUBBER WORLD*.

A PROPOSED SPECIAL PATENT COURT.

THERE is a bill before the Congress at Washington for the establishment of a United States Court of Patent Appeals, which in a measure carries out a suggestion of the American Bar Association, approved by a number of other bodies representative of the legal profession. The keynote of the Bar Association's recommendation was: "A United States patent ought to have the same legal force and meaning everywhere within its borders. But it has not at the present time."

At the beginning the Circuit courts of the United States had original jurisdiction and the Supreme court appellate jurisdiction in all patent litigation. During the century while this system prevailed the reports of the supreme court contained a body of law—consistent, coherent, voluminous and wise—the result of a large number of cases which arose in interpreting the statutes and creating a vast number of rules of law outside the statute which constitute the great body of the patent law down to 1891. The system was eminently satisfactory in every respect except on account of the delays incident to the decision by the supreme court of so many appeals as began in time to reach it in patent cases.

To relieve the supreme court, which by the year 1891 was three to four years behind its docket, the congress created the circuit court of appeals, with final jurisdiction in patent cases, reserving to the supreme court only the right of review in case that body regarded it necessary, and the circuit court of appeals was divided into nine circuits to correspond with the divisions of the United States circuit court. In other words, the law created nine courts of last resort for patent cases, all of equal dignity, none of them bound by the decision of the others, located in nine different parts of the country, and exposed to all the elements calculated to rob their decisions of uniformity.

About the best concrete example which illustrates the conflict which exists between circuit courts of appeal will be found in the suit brought for infringement by the owners of the A. W. Grant patent for a solid rubber tire for carriage wheels—a matter which has been reported at much length in THE INDIA RUBBER WORLD. The patentee brought many suits for alleged infringement, with varying results, so that to-day the Grant patent is invalid in certain appellate court jurisdictions and valid in others, and one petition to the United States supreme court for *certiorari* in connection with the Grant cases was denied.

It is pointed out with great clearness, in the report of the house committee on the judiciary which recommends the passage of the bill now before congress, how the present system may rob the holder of any patent of any sort of protection if once litigation arises over it, and the same document shows also how large a percentage of the litigation before the federal courts relates to patents.

The salient features of the proposed new law are that the president of the United States shall appoint as chief justice of the new court a judge of one of the circuit courts or district courts, and that such chief justice shall designate four other judges of circuit or district courts to be associated with him, and four of the five judges so named shall form a quorum. The United States court of patent appeals shall have jurisdiction in the case of appeals and writs of error from decrees in the circuit courts, and the decisions of the new courts shall be final, except that it shall be competent for the supreme court to require any case to be certified to it for its review, the same as if the matter had been carried from the trial court directly to the supreme court.

The merit claimed for the new system is that not only will one decision prevail throughout the United States as regards the validity of a given patent, but a great saving of time and expense will result from confining to one court the attention to details which under the existing system might come before an indefinite number of courts of equal rank and dignity.

In support of the plan for drawing the members of the new court from the existing federal courts, it is urged that the judges of these courts are selected by the President from the bar as men of attained experience and reputation, who enjoy the confidence of the public for ability and integrity. These men, after service upon the circuit or district bench for a number of years, a part of which service involves the trial of patent cases in the first instance, are developed to a high standard of judicial attainment, and their decisions indicate very clearly to the bench and the bar which of them have any aptitude for the handling of patent cases. [For an earlier article on this subject see THE INDIA RUBBER WORLD, November 1, 1907—page 34.]

WORK OF THE PATENT OFFICE.

THE number of patents granted by the United States during the calendar year 1908 was less than for the preceding year, which may or may not have been due to the financial depression which prevailed. Even in the most prosperous times every inventor does not find it an easy matter to find the cash for patent office fees. The number was greater, however, than in any preceding year, with the exception of 1907. The number granted during 1908 was 32,757, but as the same year witnessed the expiration of 22,328 patents, the net addition to the number of effective patents was only 10,419. These figures do not include design patents, reissues, or trade marks. The total number of patents granted by the United States to the end of last year was 918,392. The number granted by other countries (the figures for 1908 being partially estimated) was 1,952,086, making a total for all countries of 2,870,478, a vast proportion of which must be taken account of in deciding whether inventions for which patents are desired possess any novelty. The United States patent office has been reorganized of late, with an increased force, and has caught up with its work so as to make it possible to pass on the average application within from 30 to 60 days. The patent office is entirely self-supporting; indeed the surplus receipts over expenditures amounts to date to \$6,890,725.89. The commissioner of patents suggests to Congress that in view of this surplus the patent office should have a building of its own, better adapted to its work, as is the case in Great Britain and Germany.

RUBBER AT THE KEW GARDENS.

THE collections at the Royal Botanic Gardens at Kew were largely enriched, after the International Rubber Exhibition at Olympia, by presents from various exhibitors of living plants, particularly of the least common rubber yielding species; stems of other plants, some illustrating methods of tapping; herbarium specimens, samples of rubber products, and photographs illustrative of rubber culture and of the preparation of rubber both in forests and on plantations. Mr. Ed. Maurer, of New York, is credited with guayule plants and samples of raw and manufactured guayule rubber. Various presentations also recently made to the museums at Kew were from Mr. F. H. Hunicke, of New York, including specimens to show the method of preparing rubber from *Landolphia Thollonii* in the Congo Free State. The authorities at Kew are not only diligent in making their collections as complete as possible, but they are all the while contributing to a wider knowledge of rubber species from a practical cultural standpoint. Thus the latest *Bulletin* mentions that with the assistance of Mr. J. A. Davy, Fazenda Dumont, Sao Paulo, Brazil, a large quantity of seeds of Remanso (*Manihot piauhyensis*) and Jequié (*Manihot dichotoma*) maniocoba rubbers was obtained and distributed to 32 botanical and agricultural stations in the tropics.

SEND for a copy (free) of the Index to "Crude Rubber and Compounding Ingredients."

Scotland's Great Rubber Factory.

THE factories of the North British Rubber Co., Limited, are, to be sure, situated in Edinburgh, Scotland, and the great industry is Scottish, but in its beginnings it was American. I had long wished to visit these mills, and when the way opened to go by automobile from London to Edinburgh I was prompt in taking advantage of it. The 400 mile journey over the "Great North road" was a dream; perfect weather, no dust, lovely scenery, quaint towns and cities, old English taverns, clumsy police traps, friendly cyclists who exposed them—all was new to me and enjoyable from start to finish. Then, too, when we reached the Scottish highlands, and finally entered beautiful Edinburgh, the interest did not cease; in fact, it was augmented. Of course we visited Holyrood and all of the other historic places, but it is not of these but of the great rubber mill that this story shall treat.

The factories are very near the heart of the city, and Mr. Johnston, the secretary, and general works superintendents at once made me welcome. To describe in detail the patterns of boilers, the modern power plant, the huge spreader room, the much greater grinding room, or to tell of the size of the various departments—rubber shoes, clothing, sundries, mechanical goods, and tires—would take far too much space. A few figures as to equipment, however, are pertinent: Number of hands employed, about 4,000; area covered by the works, 8 acres; floor space, 388,775 square feet; daily coal consumption, 120 tons; horse power of engines, 4,000. There are 16 boilers, 25 calenders, 77 mixing and grinding mills, 35 vulcanizing pans, 75 vulcanizing presses of different dimensions, 32 spreading machines, and 34 rubber washers. There is also a fire brigade embracing chief, captain, two lieutenants, and 35 uniformed men.

Altogether the great Edinburgh concern is an aggregation of rubber factories, perfectly equipped, modern, successful—a company that markets its goods the world over. In China, for example, the North British "Scales chop" and "Lion chop" mean best quality rubber goods. The story of the beginnings of this great industry and of Henry Lee Norris, however, have never been told in print until now.

In view of the historic interest attaching to this important rubber factory it seems proper to introduce here a brief sketch of its foundation and progress prepared for the use of THE INDIA RUBBER WORLD, in the latter part of 1902, by Mr. William Firth, then secretary of the North British Rubber Co., a position which he had held continuously from the beginning, and from which he retired in 1905, after 48 years' service. The statement which follows is precisely as written by the late Mr. Firth:

MR. FIRTH'S STATEMENT.

IN the autumn of 1855 Henry Lee Norris, of Jersey City, and Spencer Thomas Parmelee, of New Haven, Connecticut, arrived in Scotland for the purpose of working a patent or patents of Goodyear's for the manufacture of India-rubber overshoes and boots. These patents were held by William Judson, advocate, New York.

These two gentlemen landed in Glasgow and began by searching for a suitable factory. None appearing in Glasgow, they went eastward to Edinburgh, and there found a suitable building which had been erected a few years before as a silk mill at a cost of about £50,000. This they rented, and as it was only partially occupied, they got almost immediate possession. A fine pair of condensing steam engines and boilers therefore were included in the lease, so that shortly after midsummer 1856 they found themselves ready to begin operations.

The firm was styled Norris & Co., Mr. Norris being general manager and Mr. Parmelee works superintendent. The other shareholders were William Judson, Benjamin F. Breeden, John Ross Ford, Christopher Meyer, James Bishop, and James A. Williamson, all of New York and neighborhood. The company was formed with 100 shares each £100.

The first parcel of overshoes were sold in August, 1856, to Mr. James Dick, who was then about founding gutta-percha shoe making in Glasgow that resulted so successfully for himself, and, through his munificence, for that city.

The firm of Norris & Co. existed until 1857, when the first limited liability act in Great Britain came into force, when that firm was dissolved and a new company was formed by the same shareholders and registered (about the first in Scotland) under that act as the North British Rubber Co., Limited.

The same year saw the extension of the company's operations to the manufacture of belting, hose, and mechanical articles, and also to the manufacture of combined cloth and rubber shoes, a branch which the company introduced and which is now a very important one in the rubber shoe industry. An improvement in the manufacture of rubber belting was patented about this time and has become the standard method. The products of the company kept steadily increasing in volume and in favor and the balance sheet for 1857 was decidedly encouraging.

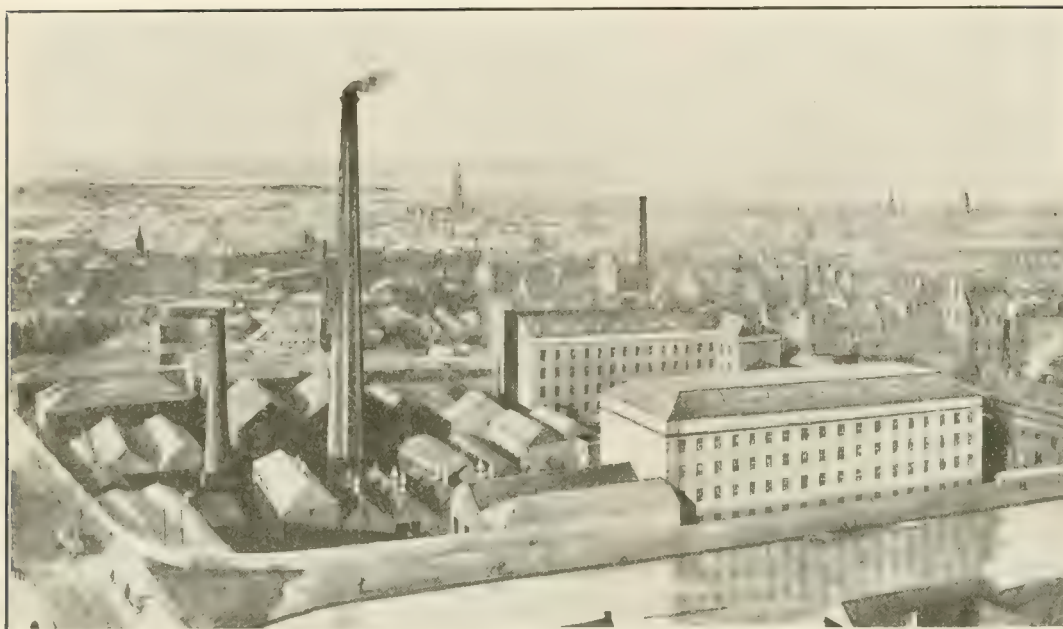
In 1858 the three years' lease of the mills was expiring, and the property, having been hypothecated to a bank, came into the market and was bought by the sagacious manager for about one-sixth of its original cost and included in the price the 5½-acre park so suitable and convenient for extension in which the mills were situated at a very small annual fee. Henceforth the success of the company with careful management was assured.

Mr. Norris retired from the management in 1860 and was succeeded by the late D. D. Williamson, of New York, for five years, when Mr. Norris again took charge till 1871, when he was succeeded by W. E. Bartlett, of New York, who with a board of directors conducted the company till his death in May, 1900.

In 1863 an unfortunate fire took place in the south mill by which it was completely destroyed, and the east wing partially. Fortunately the north mill, where the shoes and waterproof clothing were made, was preserved, and with very little delay the damage was repaired and the work in the



ORIGINAL PLANT OF NORTH BRITISH RUBBER CO.



PLANT OF NORTH BRITISH RUBBER CO. IN 1887.

damaged part resumed. The effect of the fire was to transfer the chief ownership of the works from American to Scotch shareholders, for it was many years thereafter before the property could be insured even at the very high rates of premium demanded by the insurance companies, and indeed not until the introduction of automatic sprinklers (the invention of Mr. Henry Parmelee, of New York, son of the first works manager of the company) could the mills and their contents be fully covered by insurance. The great risk thus incident to their holdings led several of the American shareholders to part with their shares; these were readily taken over by Edinburgh capitalists who had confidence in the Scotch directors that had been chosen in 1860 to coöperate with the manager.

The first Scotch directors were John Murdock, solicitor; Hugh Rose, merchant, and William Thomson, ship-owner, all of Leith. All the American shareholders were practically directors till 1865, and John R. Ford, Christopher Meyer, and Benjamin F. Breen for some years

longer. The several managers were also directors *pro tem*.

The American works superintendents besides Mr. Parmelee were, for varying periods, Messrs. Stevey, Douglas, Hyatt and Harris—Mr. Douglas alone remaining.

The original North British Rubber Co., founded in 1857, existed for 31 years ending in 1888, when, having expanded to the utmost limit allowed by its constitution, it was wound up and the present company was formed with increased capital, and in-

creased provisions for its further expansion. Its capital is £350,000, all paid up, there being 2,000 £100 shares, 2,000 £25 shares, all ordinary or dividend earning shares, and 5,000 £20 preference shares at a fixed dividend.

The company has been fairly successful and has originated several novelties in the rubber industry in boots, shoes, clothing, piston packing, belting, hose, etc., and notably in



PICTURE OF A TURKISH RUG (1900) SHOWING THE NORTH BRITISH WORKS.

pneumatic tires for bicycles and motors. The first detachable pneumatic tire was the "clincher," of which all others are in principle only imitations.

The company has branches in London, Liverpool, Manchester, Leeds, Newcastle-on-Tyne, Edinburgh, Glasgow, and Brussels, and agencies in Paris, Hamburg, Constantinople, etc.

The company has been a great boon to the industrial classes of Edinburgh, giving employment directly to about 2,500 operatives and to many more indirectly. It has a trained fire brigade that drills fortnightly with a portable fire engine and two fire pumps, with which ten nozzles can be supplied with abundance of water taken from a canal forming the boundary of one side of the works.

The 5½-acre park is now completely covered with buildings carrying on operations, and the company recently purchased an adjoining park on which meantime buildings for storage purposes alone have been so far erected, but which is available for further expansion. The company is presently in charge of Mr. R. G. Stewart and a board of five directors.

Under Mr. Williamson's management the Scottish Vulcanite Co. was started to develop or work some patent or patents held by Mr. Judson and still exists. Its works adjoin those of the North British Rubber Co. and it now produces celluloid as well as vulcanite.

PRESENT CONDITIONS.

It will be seen from what has preceded that the North British company have figured largely in the history of the rubber industry. To mention tires alone, their Mr. William Erskine Bartlett could well lay claim to the invention of what is the accepted type of automobile tire to-day, though the same principle was involved in the American invention covered by the "G. & J." patents. What happened was that the North British company could not do business in America, and the "G. & J." people could not do business in Great Britain. But Michelin, in France, where the automobile was developed, was hampered by neither patent, and did very much business. Similarly the so-called "Dunlop" tire was developed simultaneously on both continents, so that the existing British Dunlop tire company were obliged to buy up identical American and English patents to control in the world's trade the type of tire which made them famous. But more than that they were obliged to buy up Bartlett's patent—the product of a young American engaged in the tea trade in New York at \$1,500 a year until his brother-in-law, Mr. Norris, invited him to Edinburgh. It is no secret that the

Dunlop company paid \$973,300 to the North British Rubber Co. for the Bartlett patent, leaving them the right to make and sell tires under the same patent. How many "Dunlop" and how many "Bartlett" (clincher) tires, respectively, have been sold by the Dunlop company never will be known.

There are a few points in Mr. Firth's statement which require comment at this time, but on the whole it is sufficient to recall that it was written some years ago. The Scottish Vulcanite Co., Limited, have been liquidated [see THE INDIA RUBBER WORLD, December 1, 1907—page 75], but this was not an integral part of the North British Rubber Co. Mr. Ramsey G. Stewart—a Scotchman—retired recently from the management, after a successful career. There are now no Americans in charge of departments, but some of those named in Mr. Firth's account were in time important in the American rubber industry. The heirs of more than one of the American founders still hold and prize shares in the North British company. There still lives in New York, in his eighty-fifth year, John Murphy, who began rubber work at the age of 21, and who went to Edinburgh to get the Scottish Vulcanite Co. going. The original plant had been used in New York, but was put out of business by an adverse decision in a patent suit.

"AMERICAN FOUNDERS" OF THE NORTH BRITISH RUBBER CO.

HENRY LEE NORRIS, born in 1813 at Salem, Massachusetts, then an important shipping port, received a business training in New York city, and at the age of 23 was in charge of a warehouse of the Roxbury India Rubber Co., pioneers in the rubber industry in America—several years before vulcanization was known. In 1842 he went to Brazil for a short time, returning later as resident partner at Pará of Bishop, Norris & Co. He remained there for some years, serving for awhile as United States consul, and made a thorough study of the rubber situation. It was on account of the market for rubber at New York becoming glutted that he decided to open a new market abroad, and this led to his going to Edinburgh, where he took some machinery and a few operatives from a rubber factory in which he was interested at New Brunswick, New Jersey. Mr. Norris resided in Edinburgh at various times while in charge of the affairs of the North British Rubber Co., and died in the United States in 1881.

Spencer Thomas Parmelee, born 1805; with L. Candee & Co., rubber shoe manufacturers, 1848; with Ford and Meyer, rubber manufacturers, 1851; at Edinburgh 1855-58; died in America 1875. His son, Henry S. Parmelee, became a successful railroad man.

William Judson profited largely through his connection with



CHRISTOPHER MEYER.



HENRY LEE NORRIS.



JOHN ROSS FORD.

THREE PRINCIPAL FOUNDERS OF THE NORTH BRITISH RUBBER CO., LIMITED.

Charles Goodyear as his legal adviser and was a partner in some of the most important rubber factories in America. He died at Providence, Rhode Island, August 30, 1868.

Benjamin Franklin Breeden in 1849 became selling agent in New York for the rubber footwear manufactured by John R. Ford's company. He retired with a fortune and went to reside near London. He died at sea, in a steamer collision, December 22, 1873. Among the few fellow passengers saved was James Bishop, mentioned in this article.

John Ross Ford, born 1817, while in the drygoods trade married a sister of James Bishop, master of a line of sailing vessels between New York and Brazil, and having as correspondent at Pará Henry Lee Norris, the United States consul there. It was due to Norris that Bishop became a rubber importer at New York and due to Bishop that Ford took up the rubber manufacture, in which in time he became associated with Christopher Meyer. Mr. Ford left a fortune estimated at \$15,000,000. Two of his sons have been directors in the United States Rubber Co. from the beginning, and one, James Bishop Ford, has long been first vice president of the company. John R. Ford died 1896.

Christopher Meyer was the only "founder" not a native American. He was born in Germany in 1818 and died in New York in 1888, after having long been known to the public as the "rubber king." He is reputed to have started a rubber factory with \$300 borrowed from James Bishop, and later was estimated to be worth \$20,000,000. Associated with him particularly was John R. Ford, and at one time Lewis L. Hyatt, mentioned in Mr. Firth's sketch as one of the American superintendents prominent at Edinburgh.

James Bishop, early in life, was taken into partnership with his father, who had engaged in shipping successfully around New York before the days of steam. Later the firm sent ships to every continent. His beginnings in the rubber importing trade are referred to in connection with John R. Ford, his brother-in-law. At one time his house had a practical monopoly of this trade in the United States. He was some time a member of Congress (1855-57), and later won wide credit as chief of the bureau of labor statistics in his state, New Jersey (1878-93). He was long one of the most influential laymen in American Methodism. His narrow escape from death at sea has been mentioned, but that was preceded by his survival of what was at the time the most appalling railway wreck on record. He died in 1895.

James A. Williamson, son of a New York merchant and born 1816, was sent to Pará by James Bishop & Co., becoming familiar with the rubber trade. Later he was a partner in the firm, with Mr. Bishop and Mr. Norris. Mr. Williamson went to Edinburgh in connection with founding the rubber industry there, and an early manager of the North British company was his brother, Douw D. Williamson, previously comptroller of New York city and later a bank president. Mr. Williamson died April 6, 1897, only a few days after having been interviewed by this writer on a matter relating to the North British Rubber Co.

It may be mentioned that without exception the gentlemen referred to in the preceding notes held an important relation to the American rubber industry, and their reason for investing capital in Europe was that the American field in those days had been filled so completely.

RUBBER FOUNDATIONS FOR MACHINERY.

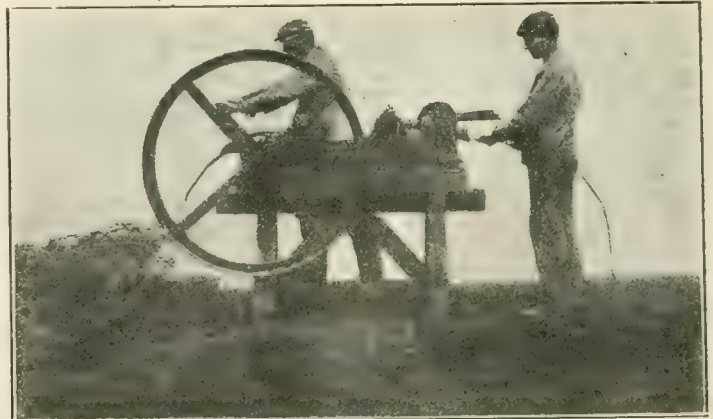
RUBBER foundations for heavy machinery are coming into more general use. London *Engineer* describes an unusually heavy steam turbine installed recently, giving particulars in regard to the use of rubber in its foundation. The turbine set, it says, is bolted to a special slab of concrete about 2 feet thick, reinforced with a steel grid, and supported by a series of circular rubber tools, which rest on the ordinary concrete built into the ground.

The top of the floating concrete slab is level with the engine room floor, but the edges do not come in contact with the floor, so that there is no connection between the concrete slab to which the turbine set is bolted and the foundation, except through the rubber. A trench is provided round the floating slab, so that the rubber stools can be inspected. Each rubber stool is a cylinder about 4 inches in diameter and 3 inches in height, when compressed by the weight of the turbine set. The rubber stools are all separately renewable, and can be withdrawn and reinserted by further compressing them, by tightening up the "jacks" in which they are held by means of screws. It is stated, however, that as the rubber stools have a considerable life, their renewal is not frequently required.

From the above description it will be understood that the turbine set is bolted to the concrete slab, and this rests on rubber stools, the stools in turn resting on an ordinary concrete foundation. The turbine in question is the largest hitherto mounted in this way.

A MACHINE FOR "ROOT RUBBER."

MECHANICAL means for doing the work of stripping the bark from "root rubber" continue to interest certain inventive minds. The *Gummi-Zeitung* contained recently a picture of a machine designed for such work. A chat with Captain Felix H. Hunicke, who has just returned from the African root rubber fields, however, leads one to believe that there is no real need for machinery for this preliminary stripping. During his experiments he made a tool which was simply an oak stake, sharpened at one end, so that it could be driven into the ground. At the upper end was fastened a piece of tool steel in which was a V-shaped groove. Across this was laid a hinged lever. In



MACHINE FOR TREATING "ROOT" RUBBER.

use the lever was raised, and one end of a root laid in the groove; the lever then was held down upon it, and as the root was drawn through the bark came off nicely. Simple as this tool was, however, it was not found necessary, the natives being able to strip the water-softened bark off with their hands just as easily and quickly as they could by using the tool. This emphasizes anew the fact often stated that only very simple machines or appliances are available in the jungle, and also that the native methods are often the most practical, however crude they may look at first sight. The "root rubber" referred to is of the class obtained from such plants as *Landolphia Thollonii*, the rubber containing parts of which exist wholly underground.

THE feature of *De Indische Mercur* (Amsterdam) appearing regularly under the heading "Rubber Scraps" and over the signature of Heer A. H. Berkhout, late conservator of forests for Java and now resident at Wageningen, Holland, is a capital summary, in brief, of current progress in rubber interests.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

I DO not know how far the subject of rubber will be considered at the Seventh International Congress of Applied Chemistry, to be held in London May 27-June 2, when there will be a great gathering of chemists, scientific and technical, from all the leading countries. When the fifth congress met in Berlin in

RUBBER AND THE CHEMICAL CONGRESS.

June, 1903, the late Dr. Weber, I remember, was prominent in bringing forward the subject of rubber chemistry, which was discussed at length in a subdivision of Section IV—organic chemistry and allied industries. This was not the case three years later, however, when the sixth congress was held in Rome. But it is probable that at the London meeting, where the same classification of topics will be in force, that rubber will come up for important notice, although no special subdivision of Section IV relates to rubber specifically. As in most international scientific congresses, the language difficulty presents itself in this case. Papers may be filed in English, French, German, and Italian, but arrangements are to be made for interpreting addresses and discussions. The King is patron of the congress and the Prince of Wales vice patron; Sir Henry E. Roscoe is honorary president and Sir William Ramsey, K. C. B., president, while I notice the names of some American scientists of distinction named on the honorary advisory committee.

SOME time ago a brief editorial notice referred to the patent taken out by Mr. T. Gare, of New Brighton, for the renovating of old tires by submitting them to high temperatures and pressure. Some delay occurred in obtaining the British patent, which has now been granted. The business headquarters have for some time been located at Hazel Grove, near Stockport, and active experimental work has been carried on. I understand that licenses to work the patent have been granted to some foreign firm, and that an option for the purchase of the British patent is now in existence, the sum mentioned being a large one. At any rate, it seems as if the process is considered of very much more value than the great bulk of those to be seen in the lists of rubber patents, and its evolution will necessarily be watched with interest.

GARE'S PATENT.

THIS solvent formed the subject of a recent paper before the Manchester section of the Society of Chemical Industry by Mr.

CARBON TETRACHLORIDE.

L. G. Radcliffe. Entitled "The Examination of Carbon Tetrachloride," it dealt entirely with the determination of its impurities as found in commercial brands. The investigation, it was stated, arose in connection with some technical research work the nature of which was not forthcoming. Whether it had any connection or not with the rubber trade, I am therefore unable to say. It appears that the main impurity is carbon bisulphide, which is usually present in quantities from 1 to 3 per cent., and sometimes up to 5 per cent. This amount was found in no degree to destroy the characteristic of non-inflammability, so that those who employ it for rubber solution making need not feel any apprehension on this score when they declare it as non-inflammable. From being a comparatively rare and expensive chemical, carbon tetrachloride has come in a few years to be a commercial body sold by the ton and, besides finding employment in rubber works, it is now used by oil extractors and dry cleaners. It is also stated to have been used in rubber works for putting out fires, but though it is non-inflammable, it is not undecomposable, and I understand that the products of decomposition at a high temperature are such as to make it undesirable as a fire extinguisher.

WHILE not subscribing whole-heartedly to the expressed claim in certain advertisements that benzol is the only perfect rubber solvent, I feel that its advantage as a solvent, taken in conjunction with its now low price, are not sufficiently

BENZOL AS A SOLVENT.

recognized by the trade. Weber laid stress on the fact that its boiling within the limited range of temperature was a drawback of considerable moment compared with solvent naphtha, which has a range of 40° C., more or less. This defect, he said, with special reference to the proofing trade, led to cockling or curling, due to too uniform and rapid drying of the texture. This statement may or may not, be a matter of general agreement among proofers of high class goods, but I imagine that it has not much bearing on heavily compounded proofs or in the various proofings which are not concerned with the production of garments. With regard to benzol as a substitute for carbon bisulphide in cold curing, the fact seems to be that in spite of all that has been said in its favor, it has still comparatively little application in England. Perhaps the case is different in America. At one time Weber was in favor of it, and was in business relations with a tar distillation firm who marketed it for the purpose. Later, however, he changed his views, as the result of experience. Where the advertisements referred to say that for this purpose it is superior to benzine, that is to petroleum spirit, I am in cordial agreement, but I am afraid this does not bring us much nearer the denied good of its general adoption in place of bisulphide of carbon.

ONE of the most recent flotations is the Paramaribo Rubber and Lumber Estates, Limited, capitalized at £60,000 and with headquarters in Edinburgh. Rubber, balata and timber are to be exploited and plantations of *Hevea* are to be established.

NEW COMPANY.

Compared with the Eastern plantation companies the record of these natural forest companies has not so far been an exhilarating one. In the present case the promoter takes the whole of his consideration in shares and none of the £40,000 capital appealed for has been underwritten. So far so good. There is, of course, plenty of the balata in Dutch Guiana; as to the prospects of the trade in timber I have no qualifications to speak. It was stated in the prospectus that the green heat timber from the property was used in the construction of the Manchester ship canal. Enquiries made from officials of the canal company elicited the intelligence that the timber had so far proved very satisfactory, and had justified its adoption instead of the alternative steel. It is thought, by the way, that the reference to its use on the canal might have been usefully elaborated by stating that it was for the lock gates; as it is, the reference is somewhat obscure except to engineers.

DESPITE the claims which have been made in so many patents for the devulcanization of rubber, I have not yet been fortunate

DEVULCANIZATION OF RUBBER.

enough to come across any sample of reclaimed rubber sold on the large which satisfy me as to the achievement of this end, that is as far as solubility in the ordinary solvents is concerned. Not that this really affects the trade importance of the various excellent brands of reclaimed rubber now on the market. It is rather a question of correct nomenclature. I am not aware that any dealers who sell reclaimed rubber from steam vulcanized stock describe it as being desulphurized, and, as being equal to the original rubber, but language of this sort is to be found in patent specifications. As an instance, I may cite the patent of Moritz Köner, of Grünau, Germany, 1905. This refers to the desulphurization of the vulcanized rubber with the produc-

tion of the original rubber. In this patent the rubber crumb is acted on by a volatile solvent such as benzol or tolnol, under pressure, the rubber being obtained subsequently free from mineral and textile fabric, the last forming a marketable product. I understand that the process has been working for some time in Germany, and that the reclaimed rubber has met with a ready sale in the large scale. If the samples I have had are genuine, they cannot be said to represent the original unvulcanized rubber any more than do the products of other patent processes founded on the principle of the dissolution of the vulcanized rubber in hydrocarbon solvents. As I have already said, the point is not a vital one as far as trade prosperity is concerned, a fact which is testified to by the success of the Köner process in Germany, a success which to the best of my knowledge has not been approached by other patented processes founded on a dissolution of the vulcanized rubber. I have no knowledge as to the extent of the sales of the recovered fabric. I recently remarked in connection with another process that the expected revenue from this source had not been realized in England. According to the authoritative statements made in regard to the Köner process, however, the case is evidently different in Germany.

THERE has been much more country motoring done during this and last winter than in previous seasons, and the enthusiastic

MOTOR TIRE NOTES.

owner is now quite disinclined to recognize any close season. This, of course, is all in favor of the tire industry. Personally, I am not very keen for motor trips in winter weather, with ice on the roads. I recently had the experience of waiting $3\frac{1}{4}$ hours in a desolate and exposed region on a frosty night while it was sought to repair some part of the mechanism. Eventually a relief car arrived and the derelict was towed home. But to pass on to matters of more technical import mention may be made as in previous years to the show held at Bellevue Gardens of the Manchester and District Motor Trades Association. Rubber manufacturers were not so well represented as in former years, the general and extensive exhibit of the Silvertown company having practically a monopoly of this department. The show itself, as regards vehicles, was certainly the best which has been held locally, but only tire features can be noticed. One or two novelties claim attention. The well-known Shrewsbury-Challiner company, of Manchester, had on view a new design of solid tire called the Challiner cross-fluted pioneer tire. This is especially intended for use on fire engines, which are exceptionally liable to skidding, owing to their having to go at high speeds round corners and often when the streets are slippery. The tire is intended to fill a want expressed locally, but no doubt if it earns good testimonials orders will come from a distance. Perhaps the greatest tire novelty of the Show was the Lynton resilient wheel and puncture proof tire made by the Lynton Wheel and Tire Syndicate, Limited, of Earlstown, Lancashire. The wheel embodies quite a new principle and has little in common with what are known as spring wheels. Briefly the invention is a metal wheel of the disc type, having one wheel rigidly attached to the hub, the other disc by means of a ball joint being allowed to rock in any direction upon the hub. The tire is a solid one, constructed in segments, and its construction allows far more displacement than in ordinary solid tires. The combined movement of tire and rim saves the tire from "pounding," thus materially lengthening the life of the rubber. To prevent creeping and to maintain the requisite space between the rubber sections the rim is constructed with a series of small transverse flanges. The wheel is made both single and twin so as to be applicable to motor vehicles of all types and sizes. Non-skidding devices were not particularly pronounced, the most prominent being the Cort detachable non-skid motor tire brand made at Market Harborough. This is not merely a brand attached rigidly to the tread, but rather a leather sleeve which is held in position by twelve steel clips, which fasten into the rim on each side of the wheel.

The India Rubber, Gutta Percha and Telegraph Works Co., Limited, in addition to the "Palmer Cord" tire made special display of their "Le Persan" tire, made at their French works and which has not previously been advertised in Great Britain. In the non-skid tire the steel studs are inserted in the tread, which is made of a special highly resistant rubber.

It is regrettable to notice that the Hartridge Tire Syndicate is in liquidation. Their tire was constructed in segments much more numerous than in the case of that referred to above, and great things were expected of it. The experimental work more particularly with regard to the molds for vulcanizing was carried out by Messrs. Iddon, the rubber machinists of Leyland, and involved some research work of importance. Another tire that promised to make a stir was the Slec, now in the same state of financial embarrassment as the Hartridge. Altogether it seems much of a gamble to join in novel tire schemes, considering the amount of preliminary expenditure necessary before income comes in and bearing in mind the opposition to be expected from wealthy interests soundly established.

At 3 o'clock in the morning of February 26, a serious fire broke out at the works of the North Western Rubber Co., Limited (Litherland, Liverpool). The

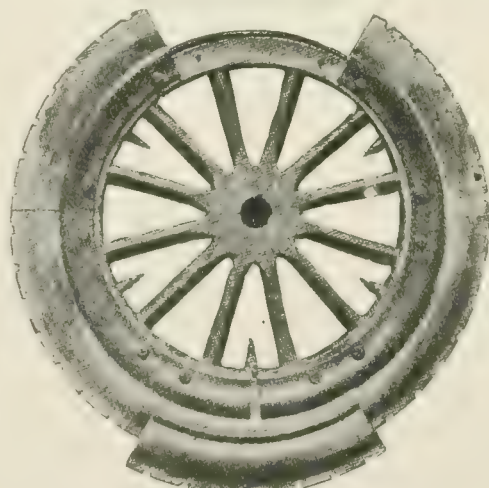
SERIOUS FIRE.

fire was confined to the finishing mill, one of the three large brick buildings which compose the works. This was burned out, and considerable damage done to the boiler house, though the efforts of the town fire brigade prevented the fire spreading to the other buildings. The damage, which is covered by insurance, is stated to amount to £50,000 [= \$243,325]. A good many men will be temporarily thrown out of employment, but Mr. E. E. Buckleton, the general manager, who was early on the scene, is taking energetic measures to effect the rejuvenation of the destroyed building. Work was not wholly interrupted, however.

TREATMENT OF INDIA-RUBBER.

A PROCESS for separating resins from rubber is covered by the United States patent No. 908,925, issued to Meyer Wilderman, of England. It consists in treating the rubber with a mixture of solvents, of which one when alone is a solvent of all the constituents of the rubber, while another when alone is only a solvent of resins; running off the mixture of solvents containing the inferior material, and recovering the solvents.

A method of manufacturing rubber solutions, consisting in treating raw rubber with symmetrical dichlorethylene, is the subject of United States patent No. 910,520, granted to Emil Fischer, of Germany.



FRANKLIN SECTIONAL PNEUMATIC TIRE.

[Six distinct pneumatic sections, each separately detachable from the wheel and fitted with an air chamber and wheel, there being no inner tube. Extra sections are carried when motoring, instead of complete spare tires. Invented by Franklin, of Luton, England.]

The Growing Interest in Rubber Planting.

A NEW RUBBER PLANTERS' ASSOCIATION.

THERE has been formed with headquarters at Antwerp the Association des Planteurs de Caoutchouc, for the general furtherance of the rubber planting interest, particularly in Ceylon, British Malaya, Java, and Sumatra. Generally the new organization is on the lines of the Rubber Growers' Association maintained by British interests under the chairmanship of Mr. H. Kerr Rutherford, of London, except that the Continental body is of wider scope. Membership in the Antwerp association we understand to be open to persons in any country who may be interested actually in the culture of rubber or in the rubber goods industry. The initial general committee is headed by Edouard Bunge, a leading rubber importer of Antwerp, and includes Emile Grisar, the official broker in the Antwerp trade, and also Dr. A. G. N. Swart, who was president of the late Netherlands commission at the International Rubber Exhibition at London, and Dr. W. R. Tromp de Haas, whose connection with gutta-percha planting in Java was noted in THE INDIA RUBBER WORLD of March 1, 1909 (page 204.) The association publishes an official monthly *Bulletin*, the first number of which was dated January, 1909, and which promises to be an interesting publication. The offices of the association are at 48 Place de Meir, Antwerp.

BRITISH INVESTMENTS IN RUBBER.

THE investment of British capital in the production of rubber, either on plantations or in the forest, continues on a large scale. There can be, of course, no adequate record of the extent of actual investments, but it is of interest to notice the number of new companies registered in Great Britain in this line. London *India-Rubber Journal* has compiled a list of companies registered in Great Britain alone during 1908, which may be summarized as follows:

To OPERATE IN	Companies.	Capital.
South or Central America.....	7	£458,500
Sumatra	4	325,000
Malaya	8	315,000
Ceylon	4	265,000
British North Borneo	2	230,000
Java	3	170,000
Africa	2	120,000
South India	1	60,000
Not Stated	10	67,000
Total	41	£2,010,500

[Equivalent to \$10,243,982.50, United States currency.]

It is interesting to observe how attractive to British capital are the Dutch East Indies, which stand in the above table for nearly one-fourth of the whole authorized capital of the companies under review. The investments in the first line relate mainly to a few large enterprises for developing forest rubber in South America.

During 1907 nineteen new joint stock companies were registered in Ceylon in connection with rubber planting in that colony, with a total capitalization of 12,810,000 rupees [= \$4,155,948.30]. It is presumed that most of these companies have been formed to take over plantations already in existence, which have made sufficient progress to have become interesting to capitalists.

GERMAN INTEREST IN RUBBER PLANTING.

PARTICULAR attention has been called to the extent of investment of British capital in rubber culture by the fact that definite results have been reached from plantations under British auspices to a larger extent than in the case of any other country. Such investments, however, have by no means been confined to Great Britain. The German people, for example, have been very active

of late in promoting rubber plantations, particularly in their colonies in Africa. In *L'Agronomie Tropicale* (Brussels, January 25) E. De Wildeman gives a list of forty German companies interested more or less in the cultivation of rubber, some of them being devoted to this interest, exclusively, and others in rubber in connection with other products. There is included in the list the important New-Guinea-Compagnie, who, while extensive planters of rubber, are interested also largely in coconuts and cacao, and the Deutschen Ecuador Cacao Plantagen- und Export-Gesellschaft, A. G. Of the companies named 17 are formed to operate in German East Africa and 19 in Cameroon and Togo. amount of capital stated for 36 of the companies is 100,460,600 marks [= \$23,909,622.80].

RUBBER PLANTING IN THE DUTCH EAST INDIES.

THE extent to which capital has been interested in rubber plantation enterprises in the Dutch East Indies probably is larger than has been appreciated in rubber planting circles generally. In the first number of *Bulletin de l'Association des Planteurs de Caoutchouc* appears a list of the companies which have been registered in different countries for carrying on the business of rubber planting in the Dutch East Indies, with the amount of capital stated in each case. The latter detail may be summarized as follows:

<i>In Java:</i>	
Dutch companies	florins 3,426,000
British companies	5,020,000
Belgian and French companies.....	12,670,000
German companies	904,000
<i>In Sumatra, Borneo and Riouw:</i>	
Dutch companies	1,350,000
British companies	16,164,000
Belgian and French companies.....	7,400,000
German companies	335,000
Total	florins 48,089,000

[Total equivalent to \$19,331,778.]

The list includes a total of 69 companies, of which 43 have been formed to operate in Java and 26 in Sumatra, Borneo, and Riouw. Twenty-one of these companies are Dutch, 25 British, 17 Belgian and French, and 6 German.

GOOD YIELD IN THE MALAY STATES.

THE Federated Malay States Rubber Co., Limited, an Antwerp company, during three years of operation (June 1 to May 31) have reported yields from their plantation as follows:

	1906.	1907.	1908.
Rubber produced (pounds).....	13,323	32,175	66,725
Trees tapped .....	....	12,335	14,196
Average per tree (pounds).....	....	2.6	4.72
Average price realized	\$1.35 1/2	\$1.31 1/4	....
Profits for the year (francs).....	74,003	173,980	180,061
Dividend	5%	9 1/2%	8 1/2%

The oldest trees on the company's estate were planted in 1899, but only a small proportion are so old as this.

THEY HAD RUBBER TO BURN.

In the *Mexican Herald* (February 13) is reported a fire on the plantation of La Esperanza Rubber Co., in the state of Vera Cruz, in which was destroyed "more than a ton of fine creamed rubber and possibly as much scrap," the product of the first year's tapping, which began in October last. Most of the rubber was in cases ready for shipping. La Esperanza company began operations about ten years ago, the incorporators being residents of Providence, Rhode Island. The manager, Carlton Hale, had developed a new method for smoking rubber after creaming, and it was in connection with such work that the fire occurred.

THE NEXT RUBBER EXHIBITION.

THE proposal to repeat in London the International Rubber Exhibition held at Olympia last year is being kept alive, and doubtless such an exhibition will be held, though the question of the proper date is in abeyance. A communication to THE INDIA RUBBER WORLD indicates that the management are still making inquiries, and that thus far the manufacturers who have expressed an interest are mostly in favor of holding the exhibition in 1910, while the planters seem to prefer 1911. Later information is to the effect that 1911 has been fixed upon definitely as the date, and every indication points to this as being satisfactory to all interests concerned.

PLANTING MISCELLANY.

THERE are now growing on the "Chival" estate of the Orizaba Rubber Plantation Co. (Chicago), in Chiapas, Mexico, about 1,000 *Hevea* rubber trees, the growth of which encouraged the owners of an adjoining plantation recently to order 25,000 *Hevea* "stumps" from Ceylon.

The new rubber planting interest has opened the way for a new branch of patent litigation as related to rubber. An illustration is found in the proceedings before the registrar of patents of Ceylon over the alleged infringement of a patent granted to Mr. E. L. Walker, a planter in the Ratnapura district for the coagulation of rubber latex. Mr. Walker is one of the superintendents of a large group of plantations owned by The Weyganga Rubber Co., Limited, with 3,100 acres planted to rubber.

The Kalutara Planters' Association—one of the several dis-

trict planting associations in Ceylon—reports that at the end of 1908 its members had 26,637 acres planted to rubber against 23,000 acres one year previously. It is estimated that there are 7,000 acres under rubber to-day not represented by the association. The rubber production in this district in 1908 was 568,945 pounds, against 285,299 pounds in 1907.

Plantation rubber from the Congo Free State has actually begun to come to market, though as yet in very small quantities. The Société Anonyme Belge pour le Commerce du Haut Congo, who have planted 3,000,000 rubber vines, are reported to have sold 1,144 pounds of rubber, the product of 3,000 plants, at 9.50 francs per kilogram [$\approx 97\frac{1}{2}$ cents per pound].

"LA ZACUALPA" RUBBER LABORATORY.

SOME views on this page relate to the rubber laboratory on La Zacualpa Rubber Plantation in the state of Chiapas, Mexico. The latex obtained by tapping is conveyed to the laboratory in five-gallon cans and poured through a strainer into vats, where it is diluted with water, when the rubber rises to the top like cream on milk, in a white spongy mass some three or four inches thick. The rubber thus formed is then cut into strips, and passed between heavy corrugated rollers, water being run through at the same time and is pressed by the rollers into sheets about $\frac{3}{8}$ -inch in thickness. The sheets are then hung in the drying room and when sufficiently dry are pressed into square blocks of about 25 pounds each, hydraulic pressure of 1,500 pounds to the square inch being used.



VATS FOR COAGULATING RUBBER.



ROLLERS FOR TREATING RUBBER.



RUBBER IN THE DRYING ROOM.



HYDRAULIC PRESS FOR RUBBER.

PREPARATION OF RUBBER ON "LA ZACUALPA" PLANTATION IN MEXICO.

Rubber and the American Tariff.

IN the inaugural address delivered by Mr. Taft on taking office as President of the United States, on March 4, he referred to the pledge made by his party, prior to the last general election, that a revision of the tariff would be made at the earliest practicable date. He gave notice at that time of an extraordinary session of the Congress, to deal with this subject, and such session was convened on March 15. In a message to the congress on this date the President called attention to the pledge which had been made to the country and suggested prompt action not only on a revision of the tariff schedules, but in the matter of providing against an imminent deficit in the revenues.

During the interim the committee on ways and means of the house of representatives had been at work upon a new tariff bill, in connection with which there had been an extensive series of hearings of representatives of the leading industries in the United States, as well as of the importing interests affected by the tariff schedules, and the new bill was introduced on March 17. While every indication exists that the work of the special session will proceed promptly, it is only reasonable to suppose that the consideration of a schedule of 712 items by a legislative body of nearly 400 members will lead to very many changes in the bill as presented, not to mention several new features in the administrative part of the bill, all of which must precede the consideration of the bill by the senate, and here again the schedules are liable to have many changes made in them.

In view of the fact that the bill now under consideration can by no manner of means be enacted into law as it stands, it seems hardly worth while at this time to go into detail regarding the changes proposed in the existing tariff schedule. It may be said, however, that so far as the india-rubber industry is directly concerned the new bill proposes very few changes.

Crude india-rubber and gutta-percha remain on the free list. The description of waste rubber is altered so as to remove a certain degree of ambiguity in the existing statute. The law of 1897 includes in the free list:

579. India-rubber, crude, and milk of, and old scrap or refuse india-rubber which has been worn out by use and is fit only for remanufacture.

The new provision reads:

587. India-rubber, crude, and milk of, and scrap or refuse india-rubber, fit only for remanufacture, and not ground or otherwise reduced in size.

The rate on manufactures of india-rubber not specially provided for remains at 30 per cent., and on products of gutta-percha at 35 per cent., *ad valorem*. The rates are unchanged on products of cotton and india-rubber and silk and india-rubber. The rate on oil-cloth and linoleum is increased slightly. The rate on "sulphur, refined or sublimed, or flowers of," is reduced from \$8 to \$6 per ton. Barytes remains at the old figure. The rate on whiting and Paris white, dry or ground in oil, is cut in half.

The rate of 10 cents per pound on chicle is retained.

The new bill proposes a minimum and maximum tariff, the maximum rates being generally equal to the minimum rates, with 20 per cent. added. The lower rates are to be applied to imports from countries which give the United States as good terms by way of tariff as are given to any other nation, and the maximum rates to imports from other countries. The executive is instructed to collect duties, whether minimum or maximum, in accordance with the terms of the bill, leaving open to the courts to decide upon the legality of the action.

It would be impossible, without laborious analysis, to estimate the percentage of reduction in the proposed tariff rates, but generally the reduction seems slight. There are few additions of importance to the free list, while duties have been increased on some other articles, notably those classed as luxuries. The President has asked the congress to make provision for revenue

from other sources than the customs service, to provide against any failure of the new schedules to yield enough money for the purposes of government.

RUBBER AND ALLIED TRADES AT THE HEARINGS

THE tariff hearings before the committee on ways and means of the house of representatives were begun at Washington on November 10, 1908, and continued until March 10, the printed record of the whole filling 8,103 pages. The rubber goods industry was scarcely represented. There were few rubber men present before the committee, very few representatives of the industry in any way, and no combination or association of rubber manufacturers was heard from.

The president of the American Hard Rubber Co. (New York) submitted a brief, with statements regarding the lower rate of wages paid by their foreign competitors in the hard rubber branch, and asking that for the benefit of the manufacturer and wage earners in this country the present rate of 35 per cent. be retained. Mr. Myer Dittenhoefer, representing the Vulcanized Rubber Co. (New York), and other manufacturers of hard rubber and hard rubber goods, stated that their foreign competitors paid for labor from 40 to 45 per cent. less than wages in America.

The Bishop Gutta-Percha Co. (New York) were represented by Mr. William Boardman Reed, who stated that they were manufacturers of gutta-percha goods, including sheet or tissue. In the case of the latter the greater percentage of the cost was for labor, and a large business is done, but if the duty, now 35 per cent., was lowered even to 25, there would be nothing attractive in the business.

The N. Tire Rubber Sponge Co. (Chicago), through their manager, Mr. B. B. Felix, asked that rubber sponges for toilet use be specified in the tariff schedule, and that a higher duty be imposed than on rubber goods generally—say 50 per cent. *ad valorem*. This was asked on the ground that the labor cost for such goods is so much higher in the United States than in Europe.

Mr. B. A. Levett, of New York, representing several importers of waste rubber, asked for a change in the existing specification of scrap rubber in the free list, which relates to rubber "which has been worn out by use and is fit only for remanufacture." Mr. Levett asked that the phrase be amended so as to introduce scraps of new rubber as well, and the committee have done this in framing the bill now under consideration. Mr. Levett also protested against the present ruling at the custom houses under which wool-lined old rubber boots and shoes are made dutiable as wool waste. He asserted that such wool had absolutely no value, as the only way in which the rubber in such goods could be recovered was by destroying the wool.

Manufacturers of safety fuse asked for a separate classification in the tariff law for this line of goods. To-day the duty on fuse is based upon the component material of chief value, which differs with different importations, making the rate unstable. Importations are now very large—14,000,000 pounds a year being credited to the Du Pont Powder company at Wilmington, Delaware; 7,500,000 feet to Insoloid Co., of Denver, and considerable quantities to seven other companies. The National Fuse and Powder Co. (Denver) during 10 years have not paid a dividend, on account, it is claimed, of the severe competition from abroad. A prominent German manufacturer is reported to be placing gutta-percha fuse f. o. b. vessel at foreign points of shipments at \$1.91 per 1,000 feet, or only 63 per cent. of the actual cost of manufacture by the National Fuse and Powder Co. The tariff committee was informed: "For

five years this company manufactured, at a loss, gutta-percha fuse similar to the fuse now being imported, owing to the difference in cost of labor and material, and finally was compelled to discontinue the manufacture of gutta-percha fuse and discard all of the machinery which had been imported from Germany. The plant was then equipped with new machinery for the manufacture of taped fuses, which command a lower price on the market."

S. M. Frank & Co. (New York), manufacturers of briar pipes, asked for a reduction of the duty on celluloid mouth-pieces from the present rate of 60 per cent. *ad valorem* to say 25 or 30 per cent.

On the first day of the hearing was taken up the chemical schedule, when representatives of the Paint Manufacturers' Association of the United States appeared to protest against lower duties on lead, oxide of zinc, barytes, linseed oil, and various other articles which enter into the rubber manufacture as well as the paint trade. A representative of the New Jersey Zinc Co. and other concerns manufacturing white oxide of zinc and lithophone argued against lower duties on these products, and asked that lithophone be specified in the new schedules. On the following day the subject of barytes was considered at length, including the relative production and use of barytes and barytes products in the United States and elsewhere, and the relative cost of production, the producers asking for a higher rate on imports for the purpose of development of the domestic mines.

The Nevada Sulphur Co. insisted that "there is ample crude sulphur in the United States to more than supply our domestic consumption, and the only reason that the mines have not been developed into large producers is that the element of labor figures so largely into the cost of production; that the main sources of competition to be met are located where about the lowest rates of wages in the world prevail, Sicily and Japan; that these competitors are so located that they can obtain cheap water transportation to our markets, while the occurrence of most of the sulphur deposits in our country is at such distance from the markets as to require the most expensive land carriage; that the tariff, which we believe was designed to equalize these differences, has been so interpreted as to remove any measure of protection to the home producer." The point is made that, through a wrong use of terms, sulphur is entering the country free which, under the intention of the existing law, should pay \$8 a ton.

A brief was submitted in behalf of ten firms of card clothing manufacturers who desired a higher rate on imports of card clothing or else a reduction in the present tariff on the card cloth and card wire used by the domestic manufacturers. Figures were presented to show the increase in the importation of card clothing since the present tariff act has been in effect and the decline in the domestic industry.

The organized automobile manufacturers appeared to ask that no reduction be made on imports of automobiles, and similarly representatives of the importers appeared to ask for lower rates. In the bill subsequently reported to congress the old rate of 45 per cent. on automobiles and parts is continued. It might be more proper to say that such goods are specified in the new bill, whereas automobiles hitherto have been dutiable at 45 per cent. *ad valorem* under a general provision as "manufactures of iron and steel."

The chicle interest was represented at the tariff hearing by statements presented by the American Association of Chewing Gum Manufacturers. No fewer than seventeen independent firms were mentioned by name. The American Chicle Co. was not mentioned in the printed report of the hearings. The chewing gum manufacturers object to the import duty of 10 cents per pound, since it was their understanding at the beginning that the duty was for revenue purposes only, at a time when the government was in more pressing need of money than now. The tariff committee was asked at least to favor

a reduction of the chicle duty to 5 cents a pound. It was asserted that, considering the average price of chicle and the percentage of impurities which must be got rid of before using the raw material, the present import duty was equal to 45 per cent. *ad valorem*. Besides, an equal amount by weight of sugar is used, and this also is a dutiable commodity.

WORKING FOR A TARIFF COMMISSION.

ONE result of the recent National Tariff Commission Convention at Indianapolis [see THE INDIA RUBBER WORLD, February 1, 1909—page 166] has been the appointment of a "general committee" of 100 members, including one or more members from each state, to keep alive the work begun at the convention. Mr. Henry R. Towne, president of the Yale & Towne Manufacturing Co. and of the Merchants' Association of New York, read at Indianapolis a plea for scientific regulation of the tariff, his paper being entitled "The Neutral Line." His idea was that tariff schedules should not be framed as now, (1) by uninformed legislators, (2) at the request of parties in interest. He would have a permanent commission, non-partisan and non-official, for

The Consumer, the people, to appeal to.

The Producer, who seeks relief.

The Congress, to obtain facts, advice, and assistance.

The Administration, to obtain facts and information pertinent to commercial treaties.

The committee recently appointed will work along the lines of Mr. Towne's paper, with a view to the ultimate creation of such a permanent commission as it described. President Taft is reported to favor some such commission, but without power to fix rates—something, by the way, not embraced in the Indianapolis plan. The chairman of the committee of 100 is Mr. J. W. Van Cleave, of St. Louis.

NOTES FROM THE AMAZON REGION.

PROGRESS continues to be reported on the construction of the Madeira-Mamoré railway, around the Madeira river falls. The *Brazilian Review* heard that 17 kilometers [=10½ miles] had been laid to the end of 1908. Another report was that 50 kilometers more were in readiness for receiving the rails.

Joao Antonio Luiz Coelho, PH.D., has been proclaimed governor of the state of Pará for the next four years, succeeding Dr. Augusto Montenegro, who ably filled the post for eight years. Dr. Coelho is 58 years of age and was educated in Brussels, Paris and Philadelphia. He was secretary to the late Baron de Marajó while the latter was governor of Pará.

The *Electrical World* (New York) contains some interesting photographic views of the electric lighting and railway system of Pará. The company operates 35 miles of railway and 14½ miles of lighting cables. The lighting circuits are being placed underground, the cables used being supplied by Callender's Cable and Construction Co., Limited, of London.

Mr. Roger Casement, C.M.G., for some time past British consul at Pará, where he recently prepared an official report on the rubber trade of notable interest and value, has been promoted to the position of consul general at Rio de Janeiro. Before going to Pará he represented his government in the Congo Free State, and was thanked by the House of Lords for his work at that post.

The net profit of the Amazon Telegraph Co., Limited—operating a cable line between Pará and Manáos—for the fiscal year ended June 30, 1909, was £14,800, or £6,000 more than in the previous year. The amount was applied to the reduction of the outstanding debit balance, which has now been reduced to £51,000. No dividend has been paid on the £250,000 of share capital since the opening of the company's cable, in 1896.

THE Continental Dunlop Pneumatic Tyre Co.'s danske Filial ved William Gunn is the name of the firm representing Dunlop interests in Copenhagen.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED FEBRUARY 3, 1909.

- N**O. 911,441. Pneumatic tire. [Comprises an outer casing, with a plurality of transverse division walls, and a plurality of inner tubes between such division walls.] P. J. Hicks, Indianapolis, Ind.
 911,482. Tire mold. [For pneumatic tires.] P. D. Thropp, Trenton, N. J.
 911,493. Tire shield [of flexible metallic plates]. J. Burmeister, Spirit Lake, Iowa.
 911,497. Tire. L. M. Nelson, Douglas, Wyo.
 911,499. Respiration apparatus for use in coal mines and other places. W. J. Garforth, Nottingham, England.
 911,531. Antiseptic sponge. C. Piets, Chicago.
 911,479. Anti-slipping shoe soles. J. G. Doughty and J. R. Sanford, assignors to The Flexible Rubber Goods Co., all of Winsted, Conn.

Trade Marks

- 28,171. New York Belting and Packing Co., Ltd., New York city. The word *Safeguard*. For rubber packing.
 39,168. The Kempshall Mfg. Co., New York city. The representation of a golf ball of a particular construction. For golf balls.
 29,100. *Spout*. The words *Black and White*. For golf balls.

ISSUED FEBRUARY 9, 1909.

- 911,506. Lawn sprinkler. H. Gibbs, Chicago, assignor to W. D. Allen Mfg. Co.
 911,840. Hose coupling. T. B. Reid, Morristown, N. J.
 911,867. Mole. I. K. Williams, Akron, Ohio, assignor of one-half to The Williams Laundry and Machine Co.
 912,001. Rubber. [An overshoe of the foot-hold type.] J. S. Ramsey, Newport, R. I.
 912,097. Hose clamp. P. E. Erickson, Port Chester, N. Y.
 912,111. Pipe or hose coupling. J. S. Dismuth, assignor of one-half to W. F. Fieg, both of Cincinnati.

Trade Marks

- 39,053. L. & M. Rubber Works, Carrollton, Ohio. The words *The Buckskin* within a wreath. For hot water bottles and fountain syringes.

ISSUED FEBRUARY 16, 1909.

- 912,376. Pneumatic spring [for carriages]. W. H. Humphreys, Liverpool, England.
 912,420. Automobile tire. [Pneumatic, with special tread.] J. Shaw, Port Dodge, Iowa.
 912,479. Heel. [Leather and rubber.] H. R. Manz, Elgin, Ill.
 912,493. Lawn sprinkler. R. C. Sanders, Pierre, S. D.
 912,583. Soft tread horseshoe. F. C. Limbocker, East Spokane, Wash.
 912,725. Pneumatic tire. G. J. Paynter, Philadelphia.
 912,800. Union hose and pipe coupling. W. L. Canniff, New York city.
 912,943. Cushion tire for vehicle wheels. E. J. Duff, Liverpool, England.
 912,953. Hose clamp. T. Harber, assignor of one-half to R. I. Gray, both of Gray, Ky.

Trade Marks

- 36,624. New Jersey Car Spring and Rubber Co., Jersey City, N. J. The representation of a diamond (geometrical figure). For rubber fire hose.
 39,105. A. W. Faber, Stein, Germany. The word *Castell*. For rubber bands.
 39,623. Mulhenny Co., Philadelphia. The representation of the toe of a boot surrounded by a circle of boots. For rubber footwear.
 39,878. The B. F. Goodrich Co., Akron, Ohio. The word *Falcon*. For rubber hose.
 39,879. *Same*. The representation of an eagle. For rubber hose.

ISSUED FEBRUARY 23, 1909.

- 912,988. Vehicle spring. A. Carpenter and C. C. Kisselle, Findlay, Ohio.
 912,989. Cushioning device for vehicles. *Same*.
 913,043. Rubber tire repairer. J. M. Padgett, Topeka, Kan.
 913,144. Detachable pipe or hose coupling. G. James, S. Benson and W. Wilson, Chicago, Ill.
 913,219. Vehicle wheel. T. Midgeley, Hartford, Conn., assignor to The Hartford Rubber Works Co.
 913,220. Tire. *Same*.
 913,251. Detachable securing means for tires. J. Baker, Pasadena, Cal.
 913,252. Detachable securing means for tires. *Same*.
 913,253. Detachable securing means for tires. *Same*.
 913,254. Detachable securing means for tires. *Same*.
 913,259. Hose coupling. C. H. Chapman, Winchester, Mass., assignor to Lightning Hose Coupling Co.
 913,295. Vehicle tire. W. A. Kõneman, Milwaukee, Wis.
 913,351. Detachable hose coupling. H. Beraud and E. J. Achée, Plaquemine, La.
 913,558. Machine for cutting rubber rings. L. J. Pianarosa, Boston, Mass.
 913,580. Motor car wheel. J. H. Symonds, Swampscott, Mass.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of these listed below was in 1907.

Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, FEBRUARY 3, 1909.]

- 22,019 (1907). Football valve consisting of a rubber tube constructed towards its lower end, the valve being cemented to the bladder, and stitched to the outer leather casing. F. H. Sprang and F. Bryan, London.
 22,133 (1907). Tire charged with a liquid compound which sets to form a resilient core; it may be provided with an inner tube. Equatorial Trading and Mfg. Co., E. A. Muskett, and J. B. Scammell, London.
 22,209 (1907). Means of holding a detachable tire carrying rim. P. E. Doolittle, Toronto, Canada.
 22,240 (1907). Football. J. Turner, Gorton, and A. Buxton, Liverpool.
 22,267 (1907). Twin pneumatic tires seated in grooves in the felloe, at the sides of a central segmental rim carrying a rubber buffer. E. C. Tame, London.
 22,321 (1907). Supplementary rim to enable a solid tire to be substituted for a damaged pneumatic. F. H. Wynne, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, FEBRUARY 10, 1909.]

- 22,362 (1907). Tools for removing and replacing pneumatic tires. W. B. Lake and E. F. Elliott, Braintree, Essex.
 22,369 (1907). Diving armor, with joints to allow the diver to bend his limbs at a right angle. F. Gall, Württemberg, Germany.
 22,374 (1907). Non skid device for tires. P. L. P. Jaugey, Paris, France.
 22,379 (1907). Apparatus for removing the gutta-percha cover from golf balls. E. G. Loomis, Norristown, Pennsylvania.
 22,382 (1907). India-rubber substitute. To a mixture of glue glycerine, and chrome salt lead plaster is added to increase tensile strength, toughness, and elasticity, and to prevent it from becoming hard and brittle. R. Neufeld, Vienna, Austria.
 22,400 (1907). Disc wheels with pneumatic tire. T. Duysens and two others, Maastricht, Holland.
 22,580 (1907). Walking sticks, golf clubs, and the like, made of a composition having Para rubber as a central ingredient. New Eccles Rubber Co., Ltd., and F. R. Mitchell, Eccles.
 22,626 (1907). Extra tread cover of rubber and leather for pneumatic tires, with non slipping studs. A. Beaujon, Paris, France.
 22,640 (1907). Material adapted for filling tires formed by introducing a gas generating substance into gelatinous or other elastic matter; it may be applied to Zakingum, made by the same inventor. Z. Olsson, Stockholm, Sweden.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, FEBRUARY 17, 1909.]

- 22,845 (1907). Spring wheel, with rim adapted for solid or inflated cushion tire. R. Diesel, Munich, Germany.
 22,914 (1907). Hose coupling. R. M. Haley, Fostoria, Ohio.
 22,953 (1907). Pneumatic tire with non skidding device of elongated hard metal studs. G. Hookam, Birmingham.
 22,978 (1907). Solid rubber tire with articulated floating rings, fixed to the sides by bolts fastened to the tire. A. W. Torkington, Purley, Surrey.
 22,919 (1907). Heel protector. J. G. Barnes, Bradford.
 23,030 (1907). Preparation of gelatine adapted for use in rubber substitutes and other purposes. W. H. Perkin, and Whipp Bros. & Tod, Manchester.
 23,031 (1907). India-rubber substitute made by dissolving gelatine in wood tar or coal tar creosote or any suitable constituting, boiling, and rendering the gelatine insoluble, as for instance with formaldehyde. *Same*.
 23,058 (1907). Leather cover for pneumatic tires. E. Kerr, Dublin.
 23,096 (1907). Inextensible wires for the beaded edges of tires of the Michelin type. B. Blundstone, and D. Moseley & Sons, Ltd., Manchester.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, FEBRUARY 24, 1909.]

- 23,149 (1907). Double top of the diabolo type. S. A. Marples, London.
 23,223 (1907). Pneumatic tire with non slipping rings. G. Bird, Earley, near Reading.
 23,300 (1907). Spinning cone for diabolo. M. Lawton, trading as J. Lawton & Sons, Birmingham.
 23,419 (1907). Pneumatic tire with tread of metal pieces. T. Winans, London.
 23,444 (1907). Spool for the diabolo-game. C. Gutmann and J. C. Schiffne, Nuremberg, Germany.
 23,481 (1907). Stuffing box packing. J. A. Fisher, London.
 23,489 (1907). Vulcanizer for tire repairs. W. Frost, and H. Frost & Co., London.
 23,498 (1907). Pneumatic tire with metallic springs inside an ordinary cover. A. A. Joullain, Levallois-Perret, France.
 23,640 (1907). Mud guard for the front of boots. W. H. Moore, Folkestone.
 23,646 (1907). Disc wheel with thick tread of solid rubber. W. J. C. Schwarz, Liverpool.
 23,668 (1907). Pneumatic tire with twin tread. F. Reddaway, Manchester.

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

- 394,415 (Nov. 25, 1907). M. Hermandey. Pneumatic tire.
 394,471 (Sept. 19, 1908). Sinclair and Rucker. Detachable tire rim.
 394,483 (Sept. 10). A. Dumi. Pneumatic tire.
 394,526 (Nov. 28, 1907). J. P. Servas. Pneumatic spring for carriages.
 394,534 (Sept. 22, 1908). R. Nemecek. Tire protector.
 394,569 (Nov. 30, 1907). P. Levy. Pneumatic tire.
 394,595 (Sept. 24, 1908). G. W. Smith. Rivet studded tire.
 394,597 (Sept. 24). P. J. Bernard. Cover adapted to removable rim for tires.
 394,656 (Aug. 26). W. B. Hartridge. Pneumatic tire.
 394,663 (Aug. 31). A. Wursten. Armored pneumatic tire.
 394,671 (Sept. 12). Shade and Gersbacher. Pneumatic tire.
 394,735 (Sept. 28). C. E. Moser. Elastic wheel.
 394,757 (Sept. 29). M. Poulet. Elastic tire, with metallic rings.
 394,777 (Sept. 29). M. Bandou. Puncture proof pneumatic tire.
 394,795 (Sept. 30). A. Heineman. Synthetic rubber, and the process for its production.
 394,865 (Sept. 21). F. Lorthicis. Pneumatic tire.
 394,886 (Dec. 10, 1907). H. R. Debroy. Manufacture of pneumatic tire covers from threads placed biaswise.
 394,930 (Oct. 5, 1908). P. Günthor. Pneumatic tire covers.
 394,959 (Dec. 12, 1907). E. Brousse. Tire.
 394,987 (Oct. 7, 1908). L'Fluillier and Roye. Pneumatic tire cover.
 394,990 (Oct. 7). C. M. Gautier. Machine for the manufacture of tire covers.
 395,011 (Oct. 8). F. Wiechard. Pneumatic tire.
 395,027 (Oct. 8). J. Blum and A. W. Carpentier. Process of manufacturing an artificial Pará rubber.
 394,941 (Oct. 5). F. H. Hersmoth. Nipple for infants' bottles.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villier, Paris, at 50 cents each, postpaid.]

NEW TRADE PUBLICATIONS.

BOSTON RUBBER SHOE Co. (Boston) have issued a catalogue for the year 1909-10 of their rubber footwear, which is naturally a very complete publication, in view of their having been in operation for 56 years, and long since having attained a capacity of 55,000 pairs daily. Some attractive new styles illustrated in this booklet will prove of interest to the trade. This is probably the most attractive retail rubber shoe catalogue yet issued by any firm. The illustrations are particularly good. The catalogue embraces the "Bay State" as well as the "Boston" brands. [4¼" x 8¾". 56 pages.]

ST. PAUL RUBBER Co. (St. Paul, Minnesota) issue a catalogue of Druggists' Sundries and Rubber Specialties, which is one of the most complete catalogues in this line that we have seen issued by any jobbing house. Nearly every item is illustrated, colors being used when necessary, in addition to which there is sufficient descriptive matter, and prices are given. We do not remember to have seen in another rubber goods catalogue 10 pages devoted to smoking pipes, as in this case, but their inclusion appears to be justified by the fact that so many of the pipes described have rubber mouthpieces. [7¾" x 7½". 152 pages.]

W. D. ALLEN MANUFACTURING Co. (Chicago) issue their Catalogue No. 25, devoted particularly to the firm's products as brass founders and brass finishers. It is full of items having relation to rubber goods—lawn sprinklers, hose reels and racks, hose nozzles, and such like goods. Some of their packings and other rubber goods also are listed. [6¾" x 9½". 96 pages.]

CHARLES MACINTOSH & Co., LIMITED (Manchester, England), in their List No. 17, illustrate many attractive designs in rubber tiling, which they illustrate in great variety, plain and in color schemes. Special attention is given in this list to types supplied recently for use on some large steamers, [9"x11". 18 pages.] Also: List No. 15—Balloons for advertising purposes, "squeakers," toy balloons, and such like goods. [9"x11". 14 pages.]

FIRESTONE TIRE AND RUBBER Co. (Akron, Ohio) issue a more than ordinarily handsome booklet, entitled "Progressive Locomotion and a Story of Progress," being a brief history of the development of pleasure conveyances from the earliest times to the present, and, of course, leading up to the subject of rubber tires. [6"x9". 32 pages.]

THE CINCINNATI RUBBER MANUFACTURING Co. (Cincinnati, Ohio) issue their Catalogue B, of Mechanical and Special Molded Rubber Goods, which is fully illustrated, and relates to an extensive line of products. In addition to goods usual in such catalogues, they list fruit jar rings, typewriter platens, billiard cushions, and other specialties. [5¾" X 7¼". 96 pages.]

THE RUBBER PRODUCTS RUBBER Co. (Barberton, Ohio) issue their illustrated Catalogue D of Druggists' Sundries and Other Specialties, including an attractive line of water bottles and the rubber goods usual in this branch, in addition to air bags, toilet brushes, and plumbers' supplies. [6¾" X 8". 31 pages.]

THE GUTTA PERCHA AND RUBBER MANUFACTURING Co. OF TORONTO, LIMITED, sent out on March 1 their Rubber Footwear Catalogue for the season of 1909-10, covering their "Maltese Cross" brand. [3½" X 6". 71 pages.] Also a net price list.

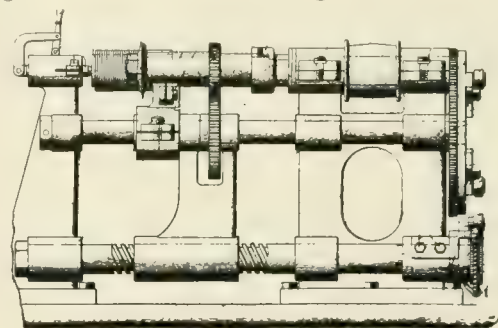
ALSO RECEIVED.

WILLIAM F. MAYO & Co., Boston.—Rubber Boots and Shoes. Catalogue No. 2—March, 1909. [Goods at special prices, wholesale.] 40 pages.

The American Metal Hose Co., New York.—Flexible Metal Hose in Steel and Copper. 19 pages.

NEW RING CUTTING MACHINE.

THE illustration shows a new type of machine for cutting rings. It is described briefly as comprising a mandrel for supporting the tube and a rotary knife with an eccentric cutting edge, together with means for rotating the knife and for giving



PIANAROSA'S RING CUTTING MACHINE.

a transverse feeding movement to both knife and mandrel when that portion of its edge of least eccentricity is adjacent to the tube. United States patent No. 913,558 has been granted for this invention to Louis J. Pianarosa, of Boston.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha for the month of January, 1909, and for the first seven months of five fiscal years, beginning July 1:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
January, 1909	\$155,258	\$77,515	\$321,885	\$554,658
July-December	647,809	881,156	1,766,639	3,295,604
Total	\$803,067	\$958,671	\$2,088,524	\$3,850,262
Total, 1907-08	844,811	1,252,153	2,209,938	4,306,902
Total, 1906-07	691,286	858,714	2,040,592	3,590,592
Total, 1905-06	738,000	1,238,837	1,626,020	3,602,857
Total, 1904-05	530,538	971,261	1,338,168	2,839,967

A **BRITISH** patent [No 15,542—1907] issued to J. Ohm, Dortmund, Germany, relates to a substance prepared in the usual manner by the action of chromates on a mixture of gelatine and glue, to which, when in the liquid state, is added flaky graphite to prevent heating when used for the tires of motor cars and the like. Pieces of sea sponge may be added. To prevent this rubber substitute from drying up, there may be added a solution of pure Pará gum in nitrated linseed oil.

New England Rubber Club's "Naval Night."

THE ninth annual dinner of the New England Rubber Club, which was held at the Algonquin Club, Boston, on the evening of March 22, adds one more to the list of successful functions for which this association is notable.

After a preliminary half hour's social, members and guests gathered at the beautifully decorated tables and discussed a most excellent menu.

PRESIDENT STEDMAN'S ADDRESS.

A preliminary to the first course was the standing toast "To the Commander-in-Chief of the Navy, President Taft." After the last course cigars were lighted, and President Stedman, calling the meeting to order, spoke as follows:

GENTLEMEN, MEMBERS OF THE NEW ENGLAND RUBBER CLUB, AND GUESTS:—This, our ninth annual meeting, has been designated by your committee, as "Naval Night." While the so-called World Cruise of the American Squadron is still fresh in the minds of the people, and the skill of American seamen is the latest wonder and admiration of all naval critics, we have the honor to-night of entertaining distinguished representatives of that navy, and participants in that memorable achievement which has become an important part of our nation's history.

Aside from our feelings of patriotism and our pride as Americans, we of the rubber trade have a business interest in the navy.

A modern battleship is quite dependent upon rubber; the pulsing of the great engines is controlled by rubber valves and rubber packing. Without its electrical equipment insulated with rubber, the fighting and operating efficiency of a battleship would be reduced to such an extent that it would be practically helpless. This latter item alone, I am told, represents a cost in the most recent type of battleship, of nearly if not quite a quarter of a million dollars. We, therefore, have not only a patriotic but a property interest in that navy of which we are so justly proud.

From its beginning our American navy has stood for the highest chivalry, faultless diplomacy, the best in scientific attainment, the greatest fighting efficiency and has displayed to the world the finest type of American gentleman.

I put chivalry first, because when John Paul Jones, in 1774, resented the insult of an English officer to the virtue of American women, by knocking the offender down in the presence of his shipmates, he conceived the idea of an American navy in which he bore so heroic a part.

I put diplomacy next, because the American navy has never been the first to draw the sword. How many budding revolutions, infant insurrections, and international misunderstandings have been averted by our deep sea diplomats, only Washington knows.

In scientific attainment it has always led. In exploration, in the charting of hitherto unknown coasts, on deep sea soundings, in bulletins and monographs on winds, currents, cyclones, and scores of other subjects of great nautical importance, the American naval officer has been preëminent.

In fighting efficiency, man for man and ship for ship, history tells where we stand, and I have faith to believe that the great American public will insist that our navy, now the best, must soon be made the biggest in the world.

When our late President, Theodore Roosevelt, with masterful determination and foresight, projected the now historic world cruise, one of the leading and influential New York dailies said editorially, and repeated it day after day: "The entry of the fleet into the Pacific means war with Japan." Now, we all know that "If you see it in the Sun, it's so." The fleet entered the Pacific, it met and engaged the ships of Japan in Yokohama harbor, the victory was ours; a victory of peace. Our

ships have returned, bringing no battle scars (excepting those caused by the broadsides of good will. May I say in parenthesis, that this cruise is acknowledged to be the most remarkable nautical feat the world has ever witnessed. How successful, and how remarkable, I trust, our guests will emphasize to us this evening.

In 1844 rubber was first introduced to the navy. On March 22, 1909 (which some of you may identify with this evening), the navy, by the presence of some of its most distinguished officers, is introduced to the rubber trade. We, of the New England Rubber Club, representing the trade as a whole, welcome them most heartily to our mess room.

During the late civil war, a soldier wandering through the grounds of the White House, met a tall clerical appearing man who asked him why he was not at the front. The soldier did not recognize the great Lincoln, and taking umbrage at the question, criticized him for hiding behind his clerical robes and thus escaping military service. The great man replied that service at the front was not always the service that tried men the most. There were mothers, wives, and children, and in too many cases, widows and orphans who sorely needed the spiritual advice and comfort of the man of God, and it perhaps took quite as much manhood to resist the calls of country and remain to comfort the deserted ones. So, too, in war and world cruises, there are things to be done at home. There are fortifications and harbors to be defended, there are ships to be made ready and repaired. The man who remains behind to protect the base of supplies, is equally as important as he who goes afar. Naval bases and navy yards are vital to the existence of the ships of war. Just as the man behind the gun determines its efficiency, so the man behind the navy yard determines the efficiency of the ships that carry the guns.

I have the pleasure of introducing our neighbor, Rear Admiral William Swift, commandant at Charlestown navy yard.

REAR ADMIRAL SWIFT'S ADDRESS.

Rear Admiral Swift was received with great enthusiasm, and in a fifteen-minute speech had the undivided attention of all present. He said in part, that he had read in the April number of a magazine the writings of a New York cotton broker who seemed to be under the misapprehension that all the navy did was to protect the merchant fleet.

"The purpose of the navy," the speaker went on, "is the defense of the country it represents; the protection of commerce is simply incidental. In time of war it is little in comparison with the navy's main objective."

He said that during the Spanish war people with summer homes along the Atlantic coast seemed to think that the navy should protect their silverware. This showed a necessity for educating the people to the knowledge that the navy is for national defense and not private affairs along the coast. If the ships guarded the coast in such an event, they would be wasting time and losing advantages.

The fifteen-months' cruise had developed a wonderful state of efficiency and had made clear that the navy was equal to all the demands put upon it. Some people thought that in times of war this country could improvise military and naval forces, but the cruise showed clearly how well it was to keep up the training.

"It is the influence in times of peace," continued the rear admiral, "that does so much to prevent war."



REAR ADMIRAL WILLIAM SWIFT, U. S. N.

[Commandant Charlestown Navy Yard.]



ARTHUR W. STEDMAN.
[President New England Rubber Club.]

Japan did much in supporting the hands of the government of Japan and aided it in quieting the turbulent element that had been aroused by the sensational newspapers of Japan."

CAPTAIN SOUTHERLAND.

After a standing toast to the last speaker the president said:

An old Roman writer, describing the English race, spoke of them as "fierce sea wolves who bared their breasts to the gale and loved to triumph over tempestuous seas." One of our guests to-night, must be of the same hardy race, for he not only put to sea in the face of a north Atlantic cyclone, but lived to weather it and write upon it. His experiences are preserved in the naval archives at Washington under the modest title, "Nautical Monograph No. 4." I have the pleasure of introducing a veteran of the Spanish war, a naval author, and one who participated in the World Cruise, Captain W. H. H. Southerland, Commanding the U. S. S. *New Jersey*.

Captain Southerland is the possessor of a very delightful dry humor, and in his description of the evolutions and the daily and nightly drills through which the 16 ships were put he not only gave to the audience much information, but did it in such a way that ripples of laughter were constantly passing over the sea of interested faces. He described the 16 battleships as they assembled in Hampton Roads, when they were so many separate entities. Then he described the work that welded these ships into a fleet. He described searchlight drill, target drill, and all of the simpler evolutions, until those present almost felt as if they were taking part in the cruise. "To use Kipling's phrase," said the captain, "the ships had found themselves," and on the voyage were kept in repair at a cost but a trifle in excess of what would have been demanded at the navy yards had they remained at their stations, and far more important, the men were infinitely better prepared for real war. Then again, the ships at their return are found to be in better condition than when they left and are ready for service any time and anywhere.

CAPTAIN FLETCHER.

The next speaker, Captain Fletcher, was introduced as follows:

The student and scientist, and when necessity bids, the practical fighting man, is the United States naval officer of to-day. One of our guests has done notable work in all of these. I need only mention the deep sea soundings in the Pacific ocean in the year 1875, the determination of longitudes of the Central and South American coasts in the year 1883, and the successful command of one of our most modern battleships, the magnificent *Vermont*—Captain Frank F. Fletcher.

Captain Fletcher described the old navy and said that there had come a great transformation. Such a cruise as had been sailed by the fleet showed that great work is required in times of peace to make the navy strong.

A display of force, where it is adequate, is of enormous influence in securing the peace of the world. I believe that there have been times where serious trouble was averted by a movement of ships. Only a few of the inner circles would know and there would be no evidence that coercion was being used. The trouble would be speedily settled, however.

"I have no doubt that the visit of our fleet to

"It is the best of its kind," he said. "The best in construction and in machinery; it is well skilled and well arranged. The Japanese used a phrase in their reports of engagements in the war with Russia which is a new and a good one. It is: 'The evolution was executed as prearranged.'"

He then pictured what scientific prearrangement meant in the navy, and cited the experiences in this World's Cruise as being a most notable and practical type of far-sighted prearrangement.



FELIX HERMANN HUNICKE.
[Late Captain, United States Navy.]

CAPTAIN DOYLE.

After a standing toast to the last speaker, President Stedman said:

A very significant fact about the American naval officer to-day is, that whether he be born north or south of Mason and Dixon's line, whether in command of the *Puritan* or the *Dixie*, he is wholly American, and there is no dividing line with him. One of our guests, a son of Tennessee, has not only done notable sea service in various parts of the world, but as inspector of ordinance and engineering material for the federal government, has acquitted himself with high honors. I will introduce Captain Robert M. Doyle, commanding the *Missouri*.

Captain Doyle caught the fancy of the listeners when he began by stating that although our ships cost much money, they were built in the United States, and we not only got the ships but kept the money, too. He described the voyage from San Francisco to Honolulu, to Japan, New Zealand, and Australia, and paid a high tribute to the good conduct of the men to whom shore leave was granted freely. The central point in his speech, however, was a description of the entertainment of the fleet in Yokohama harbor and in the city of Tokio. It was a succession of dinners, receptions, garden parties, drives, torchlight processions, and, most notable of all, a luncheon given by the Emperor of Japan to the commanding officers. He said that the effect of the visit to Yokohama and the overwhelming hospitality shown to every man there was that the Japanese were most sincere in their friendship for the United States. Continuing, he said: "What the navy needs is the intelligent interest of the people that they may realize how important it is to keep the navy up to a high standard of efficiency. We need to build new ships to keep pace with other nations. It is a cheap insurance and you don't have to die to realize from it. Build the ships here and you still have the money and the ships in this country."

COMMANDER LONG.

Lieutenant Commander Long was next introduced as follows:

It is with hushed voice and bated breath that I speak of the important service that our naval officers have rendered to our government in times of international complications. Diplomacy, keen observation, and an absolute forgetfulness of self are characteristic of the many services performed by officers of our navy. One of our guests, who is also from the fair and sunny South, is of this type. He has done much that I cannot, and he will not, mention. He bears the name of one much revered by us men of New England, the name of Long. I introduce Lieutenant Commander Andrew T. Long, executive officer of U. S. S. *Illinois*.

Lieutenant Commander Long explained that he was a little

out of practice, as on the cruise the admirals did all the speaking. He then emphasized the value of the cruise on other countries; for example, on Central American states that had in the past believed that the United States had but a few cruisers and those of an obsolete type. He said that the ability to use the strong arm of force was the best sort of peace insurance. After mentioning the wonderful receptions given to the fleet in Yokohama and in Sidney, he told of shore experiences in Colombo and of the special train that took the visiting officers up to Kandy, where they were most bountifully entertained.

PROFESSOR HOVGAARD.

The next speaker was then thus introduced:

Naval architecture to-day calls for exceptional learning, the highest type of constructive ability, and thorough knowledge of seamanship. When our esteemed neighbor, the Hon. John D. Long, was secretary of the navy, he recommended as professor of naval design for the Massachusetts Institute of Technology, the leading authority in that line in the world, Professor William Hovgaard of Norway, whom I now introduce.

Professor Hovgaard briefly and in a scholarly way sketched the evolution of the American navy from the time of the wooden ship up to 1890, when we were equipped to build our own steel ships. He described the American invention, Harveyized steel armor, which added 25 per cent. to the strength of armor plates. He described the effect of the Spanish-American war on the American navy and the effect of the Russo-Japanese war in naval construction. He paid a high tribute to the versatility, not only of the commanders, but of the petty officers who were trained to know every particular of the great fighting machines on which they were stationed.

A telegram was received just before the dinner from one whom the whole club had hoped to hear, Captain Felix H. Hunicke, a veteran of the Spanish-American war, and to-day a member of the rubber trade. Serious illness in his family had prevented the captain from coming to Boston, much to the regret of those present.

NEPONSET SPLICING COMPOUND.

THE requisites of a first class splicing compound are permanently high mechanical strength, adhesiveness and dielectric strength, ease of manipulation and long life. It is claimed that these qualities are possessed in preëminent degree by the "Neponset" splicing compound. It is furnished in two standard thicknesses of .035 and .048 inch, on glazed muslin in one-half pound rolls, ¾-inch wide. It will stand a tensile stress of 500 pounds per square inch of cross section area, so that in winding it around a conductor or wire joint the manipulator may stretch it as strongly as may be necessary to make a tight, snug covering, without risk of breaking it from the pull.

In addition to these properties it has the further features of excellence that no heat is required in its application. It thus combines ease of manipulation with the best electrical and mechanical qualities.

The adhesiveness of this compound thus is so great that moderate tension in winding the tape over a joint or conductor causes each successive overlapping layer to become an integral part of the whole, making a thoroughly watertight as well as waterproof envelope.

Its dielectric strength is high. A single thickness of the .035 inch tape will successfully withstand a puncture test of 10,000 volts. This renders it especially valuable and safe to use in high-tension transformers, joints on transmission lines, and in station wiring, and in all places where the circuits are liable to be subjected to high-potential strains due to lightning, surges on the line, and the like. Manufactured by the Massachusetts Chemical Co. (Wapole, Mass.).

A NEW edition of Mr. Pearson's "Crude Rubber and Compounding Ingredients" is now in press.

TIRES AT BOSTON AUTO SHOW.

THE seventh annual show conducted by the Boston Automobile Dealers' Association, under the management of Mr. Chester I. Campbell, was held this year as usual in Mechanics' Building, on March 6-13. Before this series of shows began there were automobile exhibitions in Boston, beginning with 1898, when automobiles were displayed as a feature of the Mechanics' Fair. The Boston show has become one of the yearly automobile exhibitions of national importance, and the one held this year excelled those of former years in extent and in the popular interest displayed. There were shown altogether 335 machines,

including chassis, in addition to 68 motorcycles and 6 bicycles, which indicates that a large number of makers were represented. It is to the Boston show that most of New England looks for the latest ideas in automobiles, and many sales result from it. The same applies to tires and other accessories which were also exhibited in profusion this year.

While, perhaps, four-fifths of the firms exhibiting at Boston had exhibited previously at New York or Chicago, there were new-



CHESTER I. CAMPBELL.

[Manager of the Boston Automobile Show.]

some of those who had been represented at earlier shows had novelties to offer. In this article, however, space can be given only to naming the tire and accessories exhibitors.

Shawmut Tire Co., of Boston, of which Mr. A. N. Hood, of the Hood Rubber Co., is treasurer, made their first appearance at any automobile show, and report themselves very well pleased with their success. Their exhibit included "Shawmut" pneumatic tires, tubes and tire accessories. They attracted attention, for one reason, on account of being Boston made, and for their proved claim to be made of "strong rubber and strong fabric."

The other leading tire makers were well represented, including the Ajax-Grieb Rubber Co., Batavia Rubber Co., The B. F. Goodrich Co., Commonwealth Rubber Co., The Diamond Rubber Co., Dow Tire Co., Empire Auto Tire Co., Firestone Tire and Rubber Co., The Fisk Rubber Co., Goodyear Tire and Rubber Co., G. & J. Tire Co., the Hartford Rubber Works Co., Michelin Tire Co., Morgan & Wright, Pennsylvania Rubber Co., the Republic Rubber Co., Rutherford Rubber Co., and Swinehart Clincher Tire and Rubber Co.

Atlas Rubber Co. (Buffalo, New York) exhibited their "Non-Puncture Inner Case," illustrated in THE INDIA RUBBER WORLD for February 1 [page 178]. The Doolittle demountable quick detachable rim, new this year, attracted considerable attention.

Voorhees Rubber Manufacturing Co. (Jersey City, New Jersey) exhibited their specialties; Leather Goods Tire Co., leather tires; Zeglan Bullet Proof Cloth Co., special tire fabrics, and Hopewell Brothers (Boston) a full line of tire cases.

The attendance was good throughout the week, and there was every indication that the Boston public is still interested in automobile shows.

THE USE OF RUBBER IN THE NAVY.

THE successful completion of the recent around-the-world cruise of the American battleship fleet calls particular attention to the important part that electricity played in the successful navigation, the means of communication, and in the target practice of the ships.

Electricity in its various uses on board a modern warship is transmitted to every portion of the vessel through electric conductors covered with rubber insulation. There is not a signal exchange, a course altered, or a gun fired without the employment of electricity, and the successful completion of these maneuvers must depend entirely on the perfect quality of the insulated conductors.

Electricity came into prominence in our new navy with the building of the "White Squadron." Professor Terry, of the Naval Academy, in 1889, first took up the practical side of rubber insulations, seeing at that early date the important part they were to play in the navy.

The original specifications called for a copper conductor insulated with first pure and a rubber compound, free from sulphur, known to the trade as "White Core," over which was placed a vulcanized cover protected by a lead sheathing. With the continued advance of electricity for all purposes on board ship, the specifications were gradually changed until now, the navy department calls for three classes of insulated wire, known as "Lighting wire," "Bell wire" and "Cable." The general specifications called for first a layer of Pará rubber at least 98 per cent. pure, over which is placed a vulcanized coat, the compounding of which calls for at least 39 to 44 per cent. of fine Pará rubber. To show how important this rubber compound must be, the tests require that pieces of insulation be taken from the wire and subjected to a tensile stress that shall show a breaking strain of not less than 1,000 pounds per square inch, and that the material shall stretch to at least $3\frac{1}{2}$ times its original length. When test pieces as described above are subjected to a stress of 900 pounds per square inch for 10 minutes, the compound shall be of such a character as to return to within 50 per cent. in excess of its original length at the end of ten minutes after being released. The insulation of the conductors is further protected by a cotton tape that is thoroughly filled with a rubber insulating compound. Besides being subjected to the mechanical test, the rubber must stand an electrical test of high potential "break-down" current of a maximum of 5,000 volts, after which the conductors are submerged in water and must show an insulation of approximately 1,000 megohms per knot.

These strict specifications show why many of the rubber manufacturers find it impossible to make high grade insulated wire, irrespective of their experience in other lines of rubber goods manufactured.

A brief summary of a battleship going into action, showing its dependence on rubber insulated wires, is as follows: The call is received by wireless through the rubber insulated lead, running to the antennæ; the message is transmitted to the commanding officer over the interior communication cables; he then signals to the engine room directing the speed of the ship; the helm is then pointed in the right direction by electrical steering apparatus; the crews are summoned over telephone wires to their gun stations; the electrical ammunition hoists bring the projectiles to the guns and they are loaded with electrical rammers. In the meantime, the electric range finders have been searching for the enemy, and the position is transmitted over the telephone to the commanding officer in the conning tower. The guns being loaded are kept continually "on the target" by electrical means, and the commanding officer can, by electric transmission, fire them at will. If the action takes place at night, the electric search lights and "night signal" sets lend their aid.

It will readily be seen if, during this important time on a ship, any of the electric conductors should fail properly to carry the

current, that a wrong course, a mistake in engine signals or premature firing of the guns, might lead to the destruction of the vessel.

The great factor in naval training is quick maneuvering, and the speed with which the guns can be loaded and fired. The electrical apparatus gives advantage over the old hand system of loading of over 500 per cent.

The placing of these rubber insulated conductors on the ship must, of course, be given careful consideration. For this purpose steel tubing is used, placed well below the protective armored decks. Wherever the wires are connected with any of the various electrical apparatus, rubber bushings and glands are used to make the fixtures waterproof. A large amount of high grade rubber naturally is used each year in insulating the electrical wires and furnishing hard rubber for all parts of the insulation where flexibility is not required. As none of this rubber is ever "recovered," as is that used in mechanical goods, and as ships are usually rewired on an average of every three years, it will be seen that the navies of the world are constantly consuming a large amount of rubber which must enter into the consideration of producers of this article.

American manufacturers of rubber insulations in the field under review have not confined themselves to producing wires for the United States navy. During the late war between Japan and Russia ships on both sides of the conflict were equipped with conductors of American manufacture. The high state of the "art" reached by some of the factories in this country has been reported abroad by the military attachés in Washington and is gradually leading to the building up of foreign business.

While the application of rubber to electrical insulations is undoubtedly the most important use to which this material is put on board the modern warship, there is hardly any branch of the industry that is not represented on these floating fortresses. Among the important products, might be mentioned the floor coverings and tilings, and the packing and gaskets of the engine room.

Another important factor is gutta-percha and India-rubber impression sheets, with which a facsimile of the interior of the bore of the gun is taken to determine if any flaws or cracks have developed during firing. The material being plastic, readily takes an impression and when the sheet is withdrawn, an examination is made of it showing the exact location of flaws and if they are of such a serious nature as to place the gun out of commission.

Having seen how the rubber insulated wire industry and the mechanical rubber goods are represented in the navy, it is well to note that the rubber druggists' sundries also play a very important part in the "sick bay" of the ships, which, of course, is a complete floating hospital, to take care of the injured in case of necessity.

It has been stated by one of the commanding officers at the battle of Santiago that the use of rubber insulations on a ship during that engagement proved for the first time, in actual warfare, its great value and since then, the equipment bureau of the United States navy department has paid particular attention to various rubber industries relating to the construction of warships.

IRA W. HENRY.

"WET FEET DONE IT."

HE was sitting in an electric car, by the side of his best girl, explaining how he caught the cold that gave an added huskiness to his gruff voice and an added crimson to his broad snub nose. "I believe it's gettin' my feet wet so much," he said. "I never thought of it 'til the other day when I seen an advertizment in one of the L trains that read 'Wet feet done it.' Then there was a spiel about wearin' rubber shoes made in Boston. I read the card two or three times; it just hit my case. 'Wet feet done it.'"

Rubber Sundries Association Dinner.

IT was on March 25 of this year that the rubber sundries men of the United States met in New York in the forenoon to discuss business and in the evening for their annual banquet. For officers they elected this year, Henry C. Burton, of Parker, Stearns & Co., president; George B. Hodgman, of the Hodgman Rubber Co., vice-president; Frederick H. Jones, of the Tyer Rubber Co., treasurer, and Edward E. Huber, of Eberhard Faber, secretary.

At half past 7 about thirty members of important houses manufacturing rubber sundries gathered in one of the reception rooms at Delmonico's on the second floor and after a half hour's social filed into the red room, where the banquet was to be served. These banquets have been always notable as being unusually good, and in all their settings characterized by taste and elegance, and on the evening in question the reputation made in the past was not only lived up to but perhaps surpassed. The diners gathered about a great round table, the whole of which, except the outside margin where the covers were laid, resembled a tropical garden in its profusion of blossoms. Scattered through the flowers were cheerful Billiken statues of various sizes that grinned in grotesque good nature at the diners. A very beautiful and novel feature in the line of decoration was the hundreds of crimson rubber balloons that at different heights above the table swayed gently at every breath of air and reflected the softened light from the green-tinted candelabra. The menu was of Delmonico's best.

The speaking that followed the dinner was brief, occupying less than an hour. President Burton briefly reviewed the history of the Association for the year, and then introduced the editor of *THE INDIA RUBBER WORLD*. The next speaker was Mr. H. E. Raymond, of The B. F. Goodrich Co., who in a ten minutes' speech, punctuated by gusts of appreciative laughter, proved himself to be one of the cleverest after-dinner speakers that the

rubber trade affords. He was followed by Mr. Edward E. Huber, who read a brief, which in reality is the record of the Association for ten years, and is a matter of historic interest:

"In looking over the records I find that the first annual banquet was held in March, 1899. The first meeting, organizing the original association, was held on September 9, 1898, at the old Fifth Avenue Hotel. In this connection, and particularly because of the resolutions recently passed on the subject of the 'Return of Defective Goods,' I find that the old Association, under date of December 14, 1899, passed a resolution that no druggists' sundries goods, that were not mechanically imperfect, were to be accepted for credit by any manufacturer, and if they showed wear or had been in hand over a year, all manufacturers should refuse to credit such goods to customers. This resolution appears to have been passed at that time, but at the meeting of March 8, 1900, the subject of this resolution was further discussed, and it was deemed by some of the members who were not represented at the meeting of December 14 that it would be impossible for them to consider such a course, as the resolution was too broad, and that it was inadvisable to take such radical action. It was thereupon moved by Mr. Burton, seconded by Mr. Hodgman, that the resolution passed at the meeting of December 14, 1899, in the matter of refusing the indiscriminate return of druggists' sundries goods be rescinded.

"Evidently at that time the members of this association did not have that strength that has come to them since, and because of a better feeling among the associate members, as is evidenced by the resolution which was passed at our January meeting, and which appears to have filled a long felt want, and has been acknowledged by all as one of the greatest benefits that have been derived from a membership in this association.

"On October 3, 1901, I find a resolution that, owing to the ap-



BANQUET OF THE RUBBER SUNDRIES MANUFACTURERS' ASSOCIATION DELMONICO'S, NEW YORK.

parent indifference of the members, the association disband, and this resolution was thoroughly discussed and unanimously carried.

"We all remember the strenuous times that we passed through during this period, and the efforts that were made to keep the association together, but unfortunately, at that time, some of our 'weak' friends feared the competition of the associate members and were lukewarm, which necessitated the disbandment of the association.

"I find on the records, also, that complimentary remarks were made by Mr. Jones, Mr. George F. Hodgman and Mr. Davol on the services rendered by the retiring president, Mr. H. C. Corson, who had filled the position during the entire existence of the original association.

"I also find a vote of thanks extended to our present president, Mr. H. C. Burton, for the untiring devotion to association matters which he so freely gave. He has not yet ceased in his devotion to association matters, and I think you will all agree with me that his election to-day was a substantial proof of appreciation on the part of the members of the value of his services.

"The reorganization of the present association took place on April 3, 1903. I had the honor, at that time, of calling the meeting to order, and Mr. Raymond was temporarily elected chairman, and I promptly side-stepped to the temporary secretaryship. Since the reorganization in 1903 I can cheerfully say that we have been an exceedingly happy family. We have all profited by being members of this association—have been in a position to freely discuss matters of interest to all members of the association, bettering conditions of business, and making competition among ourselves a pleasure.

"Associations of manufacturers in the same or kindred lines of business have been extended until almost every branch of the trade is associated in some shape or form for the benefit of all.

"I believe you will agree with me that interchange of ideas on a friendly basis, because of a membership in the Rubber Sundries Manufacturers' Association has benefited all of us in the betterment of conditions in the handling of our sales departments, and I hope will also be extended to our credit departments.

"In passing, I would state that in the new association our first president was Mr. Joseph Davol, who was reelected in 1904. He was followed by that man whom we all loved and respected, the late Mr. George F. Hodgman, in 1905, who was reelected in 1906. Our strenuous friend, Mr. Howard E. Raymond, succeeded in 1907, but because of the great demands made upon him in the various associations that his company is connected with, and the honors that have been heaped upon him as either president or vice-president of the various associations, in all of which he takes a very personal interest, he declined the reelection which was offered to him at the expiration of his terms, and our friend, Mr. Henry C. Burton was elected to succeed him in 1908 and again to-day. In spite of his infirmities, his interests in our association is so great that he practically came from a sick bed to attend the meeting to-day and to attend the annual banquet."

Following the speeches came a most excellent vaudeville show, embracing sleight-of-hand exhibitions, songs, monologues, dialogues by specialty artists, and clever impersonations, ending with a series of graphic moving pictures.

After a vote of thanks to the entertainment committee—which, as usual, consisted of Mr. George B. Hodgman and Mr. Edward E. Huber—the diners departed unanimous in the opinion that the banquet was the best yet.

Each year some artistic souvenir is presented to the diners. This time it was a beautiful bronze statuette of Abraham Lincoln, one of the works of art of the Gorham Manufacturing Co. This being the Lincoln centennial year it was most appropriate.

* * *

THE following is the guarantee officially adopted by the Rubber Sundries Manufacturers' Association:

"Any article which proves defective in workmanship or material will be replaced or credited, but the manufacturer will not assume responsibility for deterioration, nor for wear, nor for injury resulting from age, accident or abuse.

"No claims for defective goods can be considered unless the articles in question are returned for examination with transportation charges prepaid. On all goods so returned and found to be defective, replacement or credit will be made, and the transportation charges for their return will be included in the amount allowed.

"Neither credit nor replacement can be allowed except as provided by the terms of this guarantee."

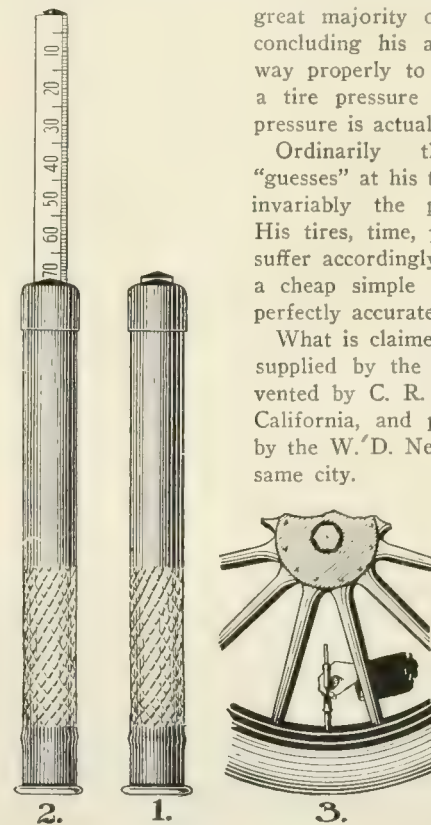
A NEW AIR GAGE FOR TIRES.

IN a recently published article, Hiram Percy Maxim shows how improper inflation of automobile tires is responsible for the great majority of tire troubles, and in concluding his article, says: "The only way properly to inflate a tire is to use a tire pressure gage to measure what pressure is actually in the tire."

Ordinarily the automobile user "guesses" at his tire pressure, and almost invariably the pressure is too small. His tires, time, patience and pocketbook suffer accordingly. The demand was for a cheap simple device which should be perfectly accurate and always available.

What is claimed to be such a device is supplied by the Twitchell air gage, invented by C. R. Twitchell, Los Angeles, California, and perfected and controlled by the W. D. Newerf Rubber Co., of the same city.

The accompanying illustration shows the Twitchell gage closed, extended and applied to an automobile tire. It is only 3½ inches long, can be carried in the vest pocket, and is always ready for use. It can be applied in two seconds, and the registration is instantaneous and guaranteed to be correct. It can be applied at any time and at any place, without inconvenience. It will not get out of order with any reasonable use.



TWICHELL AIR GAGE.

It is claimed that the Twitchell air gage will save the automobile owner many dollars by enabling him to keep the air in his tires at the proper pressure; that it will lengthen the life of the tire and reduce susceptibility to injury to the minimum. The proper air pressure, according to the Newerf company, is 50 pounds for 2½-inch tires; 60 pounds for 3-inches; 70 pounds for 3½-inches; 80 pounds for 4-inches; and 90 pounds for 4½.

GEORGE GERMANE COSSITT, who died on February 22 at Baranquilla, Colombia, aged about 65 years, was a nephew of Fred Cossitt, a wealthy citizen of New York, and had spent many years in promoting rubber planting plantations, the fine wood trade, and mining, in Mexico and Central and South America. He was mentioned in THE INDIA RUBBER WORLD several years ago as having a rubber plantation at Bluefields, Nicaragua, and was one of the first to stimulate in the United States an interest in rubber planting.

New Rubber Goods in the Market.

IRVING'S "PARADOX" INKSTAND.

AN advantage possessed by this recently patented inkstand is that it preserves all kinds of writing fluids in a perfectly free flowing state and almost entirely prevents evaporation. It is easily adjusted and readily cleaned. It works automatically; each dipping of the pen in the font causes the agitation of all the ink in the reservoir and the constant flushing of the ink keeps it clean, and the ink being



IRVING'S "PARADOX" INKSTAND.

drawn from the bottom of the reservoir, the collection of scum or dust is impossible. The reservoir proper is made of Pará rubber, specially preferred to meet the requirements. This special make of rubber bulb is procurable separately for 25 cents. Only a half minute is needed for inserting a new bulb; thus the life of the instand may be prolonged indefinitely. The other parts are all of metal, nickel plated. [The Smith & Egge Manufacturing Co., Bridgeport, Connecticut.]

RUBBER SET "HOME" BRUSHES.

THE first brushes made of bristles set in hard rubber handles were for use in shaving, but gradually this principle of construction has been extended until brushes for a very wide



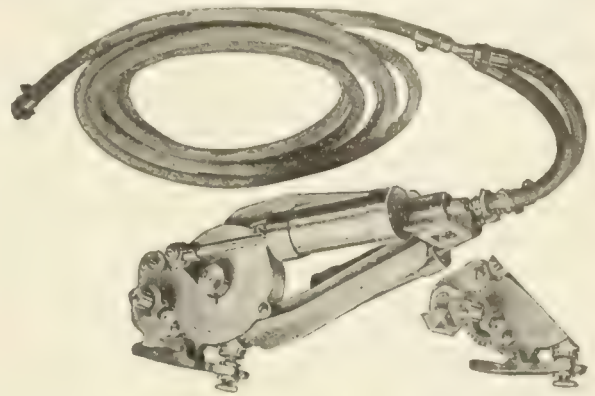
RUBBERSET "HOME" BRUSHES.

variety of uses are to be had. What are called the "Home" brushes are designed for lighter work in painting, enameling, staining and varnishing, and can be had in any size desired. [The Rubber Set Co., Metropolitan tower, New York.]

QUICK DETACHABLE POWER TIRE PUMP.

THE Kellogg tire pump is designed to attached to the engine of a motor car when air pressure is needed, and attached when not in use. The pump frame is cast hollow, in which there is located a spur gear. The pump cranks are attached one on each side of this gear. The end of the pump frame is provided with a hinged housing which can be opened or closed, attaching or detaching the pump. The

pumps are of the single action reciprocating type, delivering air to the tires through a Y connection and sufficient rubber tubing to reach all four wheels. Each pump weighs but 8

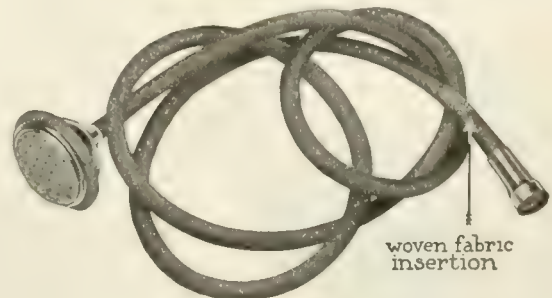


KELLOGG DETACHABLE POWER PUMP.

pounds. [The Wray Pump and Register Co., Rochester, New York.]

"KLINGTITE" BATH SPRAYS.

THE distinctive features of "Klingtite" bath sprays are pointed out as follows (1) The "Klingtite" bulb will not blow off the faucet under the strongest pressure; (2) the hose is

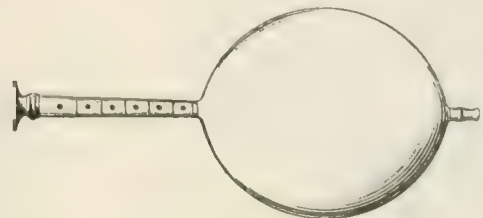


"KLINGTITE" BATH SPRAYS.

internally attached at both ends, making separation impossible, and (3) the hose is of exceptional quality, and will not burst or kink under high pressure. [The James Manufacturing Co., Cleveland, Ohio.]

TOY RUBBER BAGPIPES.

THE hit which the Scotch comedian, Harry Lauder, has made in the United States has been taken advantage of by



HARRY LAUDER TOY BAGPIPE.

the toy trade. A miniature bagpipe has been brought and is finding a good sale. It consists of two lengths of reed and a rubber bag and retails at 10 cent.

NEWS OF THE TIRE TRADE.

THERE has been a final hearing in the long pending suit of The Single Tube Bicycle and Automobile Tire Co. v. Continental Rubber Works (Erie, Pennsylvania), in the United States circuit court for the western district of Pennsylvania. The suit is for alleged infringement of the Tillinghast patents on single tube tires for bicycles. Decision is expected within a few weeks.

James L. Gibney & Brother (Philadelphia), dealers in tires and distributing agents for "Continental" ready-flated and demountable rims have, in view of their steadily increasing business, leased for a long term the larger premises, Nos. 215-217 North Broad street, which they are occupying from April 1.

Cryder & Co., No. 585 Park avenue, New York, have been appointed sole agents in the United States for the Kempshall non skid tires, manufactured in England. These tires have been illustrated in THE INDIA RUBBER WORLD.

G & J Tire Co. (Indianapolis, Indiana) have appointed as manager of their Detroit branch Mr. Ralph P. Dawse, to succeed Charles A. Monson, who is going into the lamp trade.

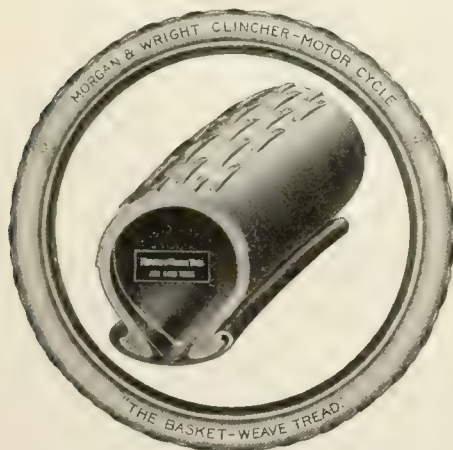
John E. Thropp's Sons Co. (Trenton, New Jersey) announce that they are exclusive licensees under the Peter E. Thropp patent No. 822,561, dated June 5, 1906, for the manufacture of molds for curing tires in open steam. Five rubber companies have already taken licenses for the manufacture of tires by the use of these molds, and other companies may obtain licenses under like conditions. It is intimated that infringers of the patent referred to will be prosecuted.

A petition in bankruptcy has been filed against Pneu L'Electric Co., dealers in automobile tires, at No. 238 West One Hundred and Eighth street, New York, and Charles L. Cohn has been appointed receiver. The company was incorporated under the

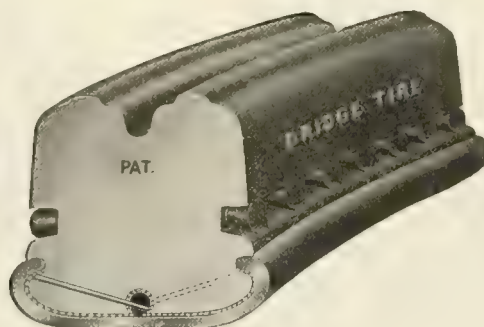
laws of New York July 26, 1907, with an authorized capital of \$200,000.

A SUIT WON BY THE GOVERNMENT.

A FURTHER decision has been rendered in the federal courts bearing upon the rate at which automobile tires should be dutiable when imported into United States in connection with, but not mounted upon, automobiles. The Auto Import Co. and other importers at New York protested two years ago against the payment of duty on certain automobiles as an entirety at 45 per cent. *ad valorem*, on the ground that the tires, not being mounted, should be admitted as manufactures of india-rubber, on which the rate is only 30 per cent. The collector at New York was upheld by the board of United States general appraisers whose decision the Auto Import Co. and Archer & Co. asked to have reviewed by the United States circuit court for the southern district of New York. Here the decision was adverse to the government. The matter was carried next to the United States circuit court of appeals, second circuit, where a decision has been rendered, reversing that of the circuit court and sustaining the collector of customs and the general appraisers. The gist of the latest decision is: When an incomplete automobile car and the four tires necessary to put it in running order are imported together, in the same vessel, by the same importer, and entered at the same time, the parts are dutiable as a whole; though before the machine is ever used other tires may be substituted. [See THE INDIA RUBBER WORLD May 1, 1907—page 244; August 1, 1908—page 375.] The latest decision is dissented from by one of the judges, Noyes, who says: "I cannot agree that rubber tires should be assessed as manufactures of metal merely because they are imported in a crate with an automobile upon the wheels of which they never have been, and it is wholly problematical whether they ever will be, placed."

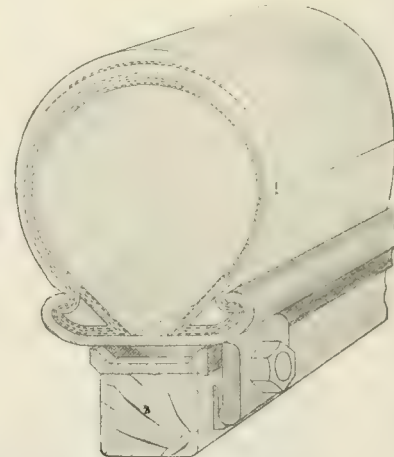


BASKET WEAVE MOTORCYCLE CLINCHER TIRE.
[Morgan & Wright, Detroit, Michigan.]



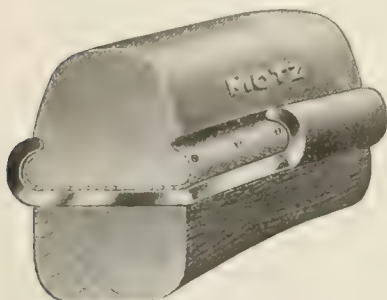
SWINEHART BRIDGE TIRE.

[Bridges in the sides of the tire, in the form of cylinders, which flatten out in use, take up shocks and stand a great amount of abuse without cutting or tearing the tire proper. Swinehart Clincher Tire and Rubber Co., Akron, Ohio.]



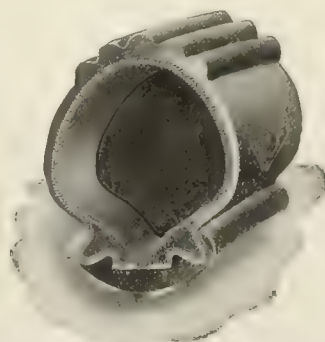
FIRESTONE DEMOUNTABLE RIM.

[For pneumatic tires—clincher or quick detachable. Regular inner tubes used. Firestone Tire and Rubber Co., Akron, Ohio.]



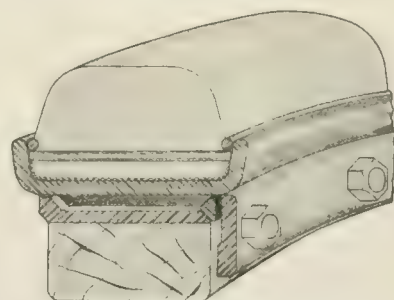
MOTZ MOTOR BUGGY TIRE.

[Clincher type. Held in rim by steel cross bars placed slantwise in the base of the tire, the ends of the bars extending under the flanges of the rim. Motz Clincher Tire and Rubber Co., Akron, Ohio.]



CORRUGATED MOTORCYCLE TIRE.

[G & J Tire Co., Indianapolis, Indiana.]



SIDE WIRE TIRE DEMOUNTABLE RIM.

[For use on commercial motor vehicles. Shown for the first time this season. Firestone Tire and Rubber Co., Akron, Ohio.]

The Late Harry D. Warren.

THE rubber trade throughout the world will learn with profound grief of the death of Mr. Harry D. Warren, president and treasurer of the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, which occurred at his residence, "Red Gables," in Toronto, on March 5. He had been ill for some time, and had undergone two operations, but his recovery was confidently looked for.

Mr. Warren was born May 8, 1860, in Brooklyn, New York, being the son of Dorman T. Warren, who is now a resident of New York City. His education was completed at Princeton University, after which he accepted a position with The Gutta Percha and Rubber Manufacturing Co., of New York. Forty years ago Dorman T. Warren and the late Amedée Spadone were both engaged in the jewelry business in New York in the same building, No. 4 Maiden lane, though not associated. They became friends, however, and both joined the board of directors of the rubber company last named. Later Mr. Spadone was elected president of the company, which position he held for 36 years. The company organized a selling agency in Canada, which was followed by the establishment of a branch factory at Toronto, the business of which, in 1887, was incorporated in Ontario as The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited. Harry D. Warren had meanwhile gone to London to represent there the Otis Elevator Co., in which his father was a director, but in 1887 he returned to America, to accept the management of the Toronto business. In time the New York and Toronto companies became entirely distinct, Mr. Spadone relinquishing all interest in the one, and the Warrens in the other, and Harry D. Warren was thereafter the head and guiding spirit of the Toronto business until his death.

Mr. Warren was for several years a director of the Canadian Bank of Commerce, and associated in an official capacity with various other companies and organizations. He was a member of the leading clubs of Toronto, Montreal, and Ottawa. For many years he occupied a high position in social and financial circles in Toronto, where he was most highly esteemed, and his death is a loss to the rubber industry generally, the city in which he lived, and the country in which he chose to make his home and in which his large interests were centered.

Mr. Warren was a member of St. Simon's Anglican Church, and is survived by a widow and five children. His will provides that the business of the rubber company, in which he held a controlling interest, is to be continued precisely as heretofore. Mr. Charles Newton Candee, the secretary of the company, long associated with Mr. Warren, also began his business career with the Gutta Percha company of New York.

The following tribute penned by one who was associated with Mr. Warren in business and had long known him well illustrates the appreciative regard in which he was held:

"When Mr. H. D. Warren died there went from among us a generous heart, a keen and kindly mind, a merchant and citizen

of high ideals. It is not given to many to possess his quick insight and rare individuality, still less to establish for themselves such a lofty interpretation of commercial ethics. His manifold interests brought him in touch with all sorts and conditions, and to all he was fair and courteous. A perfectionist in mode and manner, he added to other gifts a personal and distinctive magnetism, which impressed itself alike upon his social equals and his dependents. His business, and it was a large one, was governed by standards which are too often deemed incompatible with financial success, standards of rigid integrity, not only of action, but of thought. The progress made by the undertakings which he guided did but reveal to him an ever increasing degree his responsibility to his fellowman for his stewardship.

"Like the leaven in the loaf, he revived and permeated what he touched, a personality too unique not to be recognized and felt. Impatient and scornful of cant or humbug, his deeds testify to his deep regard for the welfare of his city and its inhabitants, and into many a mind on hearing of this most untimely death will come the memory of good acts performed in modest silence."

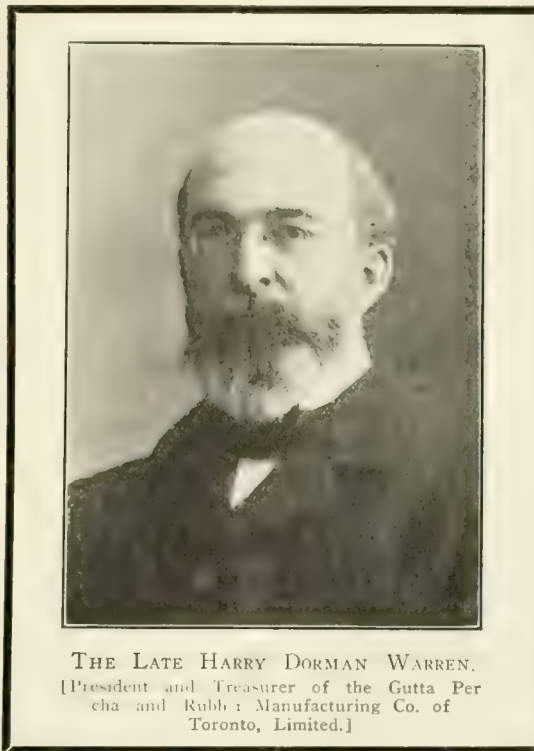
[TUBING MACHINES.

THE principle on which the first rubber tubing machine was constructed is still followed, nothing superior having ever been found, says a little book on the subject lately published; but the application of this principle is so much better understood and so many changes in detail have been made that the latest tubing machines, though following the general lines of the earlier type, so far excel them in productive capacity and general usefulness that the change from the old machine to the new is of more economic importance than the first radical change from hand work to machine manufacture.

The modern machines in this line have been given wide range and adaptability. It is pointed out, for example, that with a single perfected tubing machine, and a limited amount of extra equipment, it is possible to make plain, corrugated and soap-stoned tubing, solid cords, rods and special forms, wagon tires, multiple tubes, and wire and fabric insulation.

The book referred to, "Tubing and Insulating Machines," comes from John Royle & Sons (Paterson, New Jersey), whose business was established in 1860 in the manufacture of machinery. Gradually one line after another was added, and in 1881 they began the building of rubber tubing machines, which has now become one of their most important branches. This book describes the various styles of such machines, including the numerous items of equipment to fit them for various products. Another department is the manufacture of insulating machines, which they carry out on a large scale. Likewise they manufacture circular looms for the weaving of hose jackets, which is closely associated with the manufacture of rubber hose lining.

This is a handsomely bound volume of 195 pages.



THE LATE HARRY DORMAN WARREN.
[President and Treasurer of the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited.]

The Rubber Trade in the Dominion.

CANADIAN CONSOLIDATED RUBBER—ANNUAL.

AT the annual meeting of shareholders of the Canadian Consolidated Rubber Co., Limited, at Montreal, on February 26, with Mr. D. Lorne McGibbon, president of the company, in the chair, the directors presented a very favorable report. Commenting upon the report, President McGibbon stated that while the year's trading had been in smaller volume than in some previous years, it had been above the \$5,000,000 mark. The company now had ample working capital, and its affairs were in good shape. He could announce that the payment of dividends on the common stock at the rate of 4 per cent. per annum would begin on April 1, the first disbursement amounting to \$28,000. The report of the directors said, in part:

"The promise of a successful year, which your directors felt justified in predicting at your last annual meeting, has been fully realized, and the statements about to be presented to you show that the condition of the company is, in all respects, an excellent one.

"The company has acquired, during the past year, twenty-two shares of the Canadian Rubber Co. of Montreal, Limited, making 19,118 shares out of a total of 20,000; but, apart from that, the assets and liabilities remain practically unchanged.

"The company's income, derived from dividends and from other sources, amounted to \$356,749.77, which, after providing for the payment of the interest of the bonds of \$150,738, preferred dividends of \$136,131.50 and general expenses of \$36,493.98, leaves a balance of \$33,386.29 to the credit of profit and loss to be carried forward to next year.

"The volume of rubber business, in common with practically all other lines of commerce, showed a decrease for the year 1908, which was, however, partially offset by a reduction in the price of crude rubber. By judicious purchasing your directors were enabled to take advantage of this condition, and this, coupled with a policy of rigid economy in the manufacturing, selling and administrative divisions of the consolidated and subsidiary companies, has resulted in bringing their total net profits up to \$806,675.66, from which the sum of \$286,869.50 has been paid out in bond interest and dividends, leaving a balance of \$519,806.16, which is left in the treasuries of the various companies."

Mr. McGibbon's statement that his health had been restored after six months' leave of absence, and that he would be able now to devote his whole time to the business of the company, was received with much satisfaction.

The election of directors resulted in the choice of Messrs. D. Lorne McGibbon, G. W. Stephens, J. H. McKechnie, James Robinson, Alexander Pringle, C. C. Ballantyne, V. E. Mitchell, D. Coulson, E. W. Nesbitt, W. R. Allan, and Shirley Ogilvie. The election of officers resulted:

President and Managing Director—D. LORNE MCGIBBON.
Vice President—Major GEORGE W. STEPHENS.
Second Vice President—J. H. MCKECHNIE.
Chairman Executive Committee—JAMES ROBINSON.
Secretary-Treasurer—WALTER BINMORE.

The quarterly dividend of $1\frac{3}{4}$ per cent. on the preferred shares of the company was payable April 1.

THE NEW RUBBER SHOE LISTS.

BEGINNING with March 1 the rubber footwear manufacturers of the Dominion have abolished gross lists and the system of discounts in quoting to jobbers, as was intimated would be the case in THE INDIA RUBBER WORLD, February 1, 1909 (page 182). One of the leading manufacturing concerns writes:

"The principal reason why the rubber shoe manufacturers of Canada adopted 'net prices' in selling their goods was that the retailer got the notion into his head that they must sell at the

catalogue list prices. Therefore, when the discounts shortened up to say 20 per cent. off they blamed the manufacturer for not allowing them a larger profit. The manufacturers never had any idea of fixing the selling price to the consumer when making their catalogue price. You remember, when the discount to the retailer was 30 and 5, 30 and 10, etc., which was very satisfactory to the retailer, that he could show the list and explain to his customer what a bargain he was giving in selling him below the list price. The net prices have met with the approval of the whole trade, jobbers and retailers. We will do this season as the United States Rubber Co. have been doing recently—issue our catalogues without any list price, enclosing a little booklet with the net prices. The United States Rubber Co. use with their catalogue two booklets, one with a net list and one a gross list, but we have decided to break away from the gross list altogether."

A retailer in Toronto writes: "In my opinion the change from list and discount to net prices will be beneficial to the trade in general. My reasons are: Many complain as to the difficulty in rapidly figuring the cost in the discount system. Again, mistakes are apt to occur, and have occurred on the part of those not so familiar with mathematical calculations as others. Besides, as the rubber business is part of the shoe business, and now that all or nearly all shoes are sold upon a net basis, I think rubbers should be also."

BRIEF MENTION.

THE annual meeting of the Wholesale Rubber Boot and Shoe Association of Canada, at Montreal, on January 20, was marked by the largest attendance in its history. After a full discussion the sentiment of the association was found to be in favor of the selling of rubber footwear at net prices. Thus is removed any suggestion that the wholesale houses fix the price for the consumer, and the retailer is free to fix his own selling prices according to local conditions. Philip Pocock, of London, Ontario, was elected president, succeeding Clarence F. Smith. Joseph Daoust, of Montreal, and N. L. Martin, No. 64 Wellington street, Toronto, were re-elected treasurer and secretary, respectively.

Mr. Walter Binmore, recently elected secretary-treasurer of the Canadian Consolidated Rubber Co., Limited, has held for a number of years the office of general manager of the Maple Leaf Rubber Co., at Port Dalhousie, Ontario. On leaving his former post Mr. Binmore was tendered a banquet by the members of the office and the warehouse staffs.

Mr. Alexander Macpherson, long connected with The Gutta Percha and India Rubber Manufacturing Co. of Toronto, Limited, is now president of The Hough Lithographing Co., Limited, of Toronto.

INDIA-RUBBER AND THE SAILOR.

THE sailor taking a fine new rubber band from the stationery display began to chew it with vigorous enjoyment.

"What are you up to there?" snarled the druggist.

"Just chewing rubber," said the sailor. "It's a habit with all us navy fellers. Keeps off gun headache. Of course, you, a land lubber, don't know nothin' 'bout it, but let me tell you, mate, when a sixteen inch gun goes off, aboard ship, the jar shatters winders, splits planks, and brings your lower teeth up against your uppers like a straight left from old John L. The result is a gun headache; such a headache! But if you chew a rubber in firing time it eases off the shock and you don't suffer none. I been chewin' it steady ever since Manila bay.

"Rubber chewing is the salvation often."

F. J. K.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE prominence of Akron as a tire making center has been indicated by a count of the tire equipment on cars exhibited at all the automobile shows during the past season. Four Akron companies are stated to have supplied the tires on 60 per cent. of the cars appearing at fifteen shows held since January 1. Out of a total of 2,039 cars, 1,371 were equipped with quick detachable rims, and in this line also the Akron manufacturers have predominated largely.

The Akron rubber trade is anticipating an unusually early motoring season this year, on account of the open winter, and partly on account of the depression in the automobile business in 1908. They are making preparations accordingly, and all attention is now turned toward the distributing agencies and the branch stores of the various tire making companies. There has been an unusual extension of selling facilities for the present season, and a large number of new branches and agencies have been established.

* * *

THE close of the long-continued litigation between the Goodyear Tire and Rubber Co. and the Consolidated Rubber Tire Co. was recorded in March, when the United States supreme court for the second time denied a petition for *certiorari* (a writ for review) in the Grant patent case. The Rubber Tire Wheel Co. (now included in the Consolidated Rubber Tire Co.) sued the Goodyear company in the United States circuit court for the northern district of Ohio, eastern division, alleging infringement of patent No. 554,675, issued to Arthur W. Grant for solid rubber tires for vehicles. The decision and opinion of Judge Wing were in favor of the plaintiffs. The case was appealed, however, to the United States circuit court of appeals, sixth circuit, and after a hearing before Judges Lurton, Day and Severens, at Cincinnati, in an opinion written by Judge Lurton and filed May 6, 1902, the decree of the circuit court was reversed. [Details of this case have been reported fully from time in THE INDIA RUBBER WORLD, as well as the litigation over the same patent in other circuit court jurisdictions, resulting in conflicting decrees. This case has afforded a strong argument for the creation of a special court of appeals for patent cases, a bill for which is now pending at Washington.—THE EDITOR.]

* * *

F. A. SEIBERLING has begun an infringement suit against the Standard Universal Rim Co., of Columbus, in the United States circuit court, eastern division of the southern district of Ohio, at Columbus. The petition charges infringement of the Seiberling patents covering Goodyear rims. Five patents are involved, covering the features of a reversible side ring, a spreader, and a split lock ring. The Goodyear company have been manufacturing this rim since 1905. The Standard company is a new concern.

The Goodyear Tire and Rubber Co. are manufacturing a new non-skid tire, with what is designated as a "Block" tread. The surface of the tread is covered with blocks, $\frac{3}{4}$ of an inch square, and raised 3-16 inch above the surface. The company have been experimenting with the tire on the New York taxicabs and will now place it on the market extensively.

* * *

TIRE manufacturers are watching with interest the result of the completion by the Goodyear Tire and Rubber Co. of a tire making machine. The device was invented by Frank A. Seiberling, president of the company, and after a long period of experimentation, the company has installed four of the machines. They are claimed to be an improvement over the machines of foreign make and are said to be capable of making perfect tires at the rate of fifty a day, when operated by a workman of average skill. It is claimed that they will make large size tires as fast as those of smaller dimensions, and afford an even tension

throughout the construction. The officers of the company declare themselves satisfied with the results of the machines and are preparing to install four more. It has been understood for some time that the Diamond and Goodrich companies have also had their experts at work improving the foreign machines, but as yet no announcement from them has been made.

* * *

THE B. F. Goodrich Co. announce a new motorcycle tire which they claim possesses the strength of an automobile tire, combined with the resilient features of a bicycle tire. The company have manufactured a number of tires for motorcycles, but in this latest type they believe they have perfected a design that will answer all the requirements of two-wheeled motor vehicles. It is built by the same method that is used in making an automobile tire, and is designed with a rib tread.

* * *

THE Firestone Tire and Rubber Co. have established a district agency in Baltimore at No. 518 West Baltimore street, in charge of W. Milton Norris. About the middle of March they opened a branch in Cleveland at Nos. 918-922 Euclid avenue with W. A. Harshaw manager. An unusual feature of the Cleveland branch is a garage for commercial and pleasure vehicles.

Mr. H. S. Firestone, president of the Firestone Tire and Rubber Co., accompanied by Mrs. Firestone, is expected to return from a tour of the South by April 1. They left February 24 and have traveled as far as Cuba and the Bahama Islands, incidentally taking in the Ormond and Daytona automobile races.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE business situation this month is much more favorable than last month. The rainy weather is over, and the fine weather is directly responsible for the opening of a lively business. The rubber establishments depend most largely on the business from interior sections, and the country districts are prospering to a marked degree. Conditions in the interior are, generally speaking, better than in San Francisco. There is still some complaint to be heard among the general lines of business in the city, and there is still the cry of money scarcity and unemployment of labor, but with the rubber houses who are getting in big orders from the country all say they are doing well. Conditions in San Francisco are unsettled, owing to the fact that there is a continued movement of retail merchants back to the oil-time retail district, and even the wholesalers are not entirely settled.

The Pacific Coast Rubber Co., a western firm which has four branch stores in the Pacific northwest as well as in San Francisco, has made a change in the control and management of the San Francisco establishment. Mr. H. C. Norton, president and manager, has severed his connection with the firm, and is now preparing to associate himself actively with the American Rubber Manufacturing Co., in which he also owns an interest. This latter concern has its headquarters in Oakland, across the bay, and Mr. Norton will probably make his headquarters there in future. Mr. Bushness, who was also with the Pacific Coast Rubber Co. in San Francisco, has gone with Mr. Norton over to the American company, and it is understood that he will hereafter handle the water front business for that firm.

The new manager for the Pacific Rubber Co. is Fred S. Winslow, who has been associated with the San Francisco branch during the past four months as general salesman. Prior to that he was for many years identified with the wholesale hardware business so that he has a thorough acquaintance in that line. The selling force of the company's San Francisco branch has been increased. A larger stock is being carried, and improvements will be made in the arrangement of the store at No. 416 Mission street.

Mr. U. R. Grant, formerly with the Gorham Rubber Co., has

returned from his trip among the factories in the East where he engaged in the selection of some choice lines, and on his return he became identified with the Eccles & Smith Co., who have taken in Mr. Grant for the purpose of opening up their new mechanical rubber goods department. The two principal lines he is starting with are the New Jersey Car Spring and Rubber Co., of Jersey City, of which they have the agency on the coast, north of Bakersfield, California, and interlocking tiling of the Goodyear Tire and Rubber Co., of Akron. Mr. Grant and Mr. George Sweeney will do the "hustling" for the new department. The Smith & Eccles Co. have branches in Los Angeles, San Francisco and Portland, and are figuring on putting in another at Seattle.

Mr. J. J. Fields, Jr., president of the New Jersey Car Spring and Rubber Co., is now visiting on the coast, spending some time at Paso Robles Hot Springs, and coming on to San Francisco shortly.

The Bowers Rubber Works have been turning out a large quantity of the new hollow edge conveyor belt, for which a patent has been secured by Brooks & Bateman, of San Francisco. The edges of the conveyor belts are turned and molded, so that there is a large hollow tube on each edge, the tank being even with the back of the belt and coming up on the upper side so that the belt forms a trough. It has the advantage of being able to be run flat, without bending like the ordinary conveyor belt, and the edges being hollow, they do not break on the turn. They are also making a concentrator belt with the hollow edge. T. R. Brooks, of the latter firm, who is also manager of the mining department of the Risdon Iron Works, will make a trip east this spring with his new belt.

Messrs. R. H. Pease, Sr., and R. H. Pease, Jr., president and treasurer of the Goodyear Rubber Co., are now making their usual spring trip through the eastern states. Mr. Runyan, the secretary, reports that business is beginning to pick up, the heavy rains having started an increased prosperity for both the mining and agricultural industries.

Francis A. Hardy, president of The Diamond Rubber Co., of Akron, is now visiting at Del Monte, California, and will come on to the company's branch at San Francisco. He is accompanied by W. B. Miller, secretary of the company, and on the arrival of Mr. Miller it is probable that the retail branch store of this firm on Golden Gate avenue will have its permanent location selected. C. E. Mathewson, Pacific coast manager, has returned from Seattle, Wash., where he opened a branch store for the company.

Mr. John H. Kelly, of the Republic Rubber Co., accompanied by Mr. Hendrie, of their Denver branch, has just paid a visit to the western representatives, the Phoenix Rubber Co. He was well impressed with the conditions generally and with the way his tires are gaining a foothold.

Mr. L. L. Torrey, manager of the Pennsylvania Rubber Co.'s local branch, reports that business is 50 per cent. better this month than it was last year at this time, and that collections are very fair.

William J. Gorham, president of the Gorham Rubber Co., is now down in Los Angeles, where his firm has a branch store, which is reported as doing the biggest automobile tire business it has ever known. Mr. Parish, of San Francisco, also spent a few weeks in Los Angeles. This firm is doing a big business in its fire department, having obtained lately a \$25,000 order from the city of San Diego; another for a motor chemical engine for Pasadena; good fire hose orders from Marshfield and Bandon, Oregon, and so on along the coast.

RUBBER IN SUSPENDERS.—In the latest styles of men's suspenders, the New York *Sun* hears, there is less rubber than formerly. The elastic is confined to the back straps. The suspenders composed largely of elastic have been found to stretch and get out of shape largely from the heat of the body.

ATLANTIC CABLE BUSINESS.

THE annual report of The Mackay Companies for the year ended February 1, 1909, shows smaller earnings, but on account of the more economical operation the customary dividends have been declared. The corporation owns all or part of the stock of 102 cable, telegraph, and telephone companies in America and Europe, including the entire capital of The Commercial Cable Co. and the Postal Telegraph system. The income for 1908, described as "from investments in other companies," was \$3,685,761.91. The dividends—4 per cent. on both preferred and common shares—aggregate \$3,655,216. The lessened income is attributed to the general business depression during part of the year, and the interruption of submarine cables of The Commercial Cable Co. by trawlers, the prevention of which troubles is now being studied by a British government commission.

In view of a demand in some quarters that the transatlantic cable rate be reduced below 25 cents a word, the present figure, George Gray Ward, vice president and general manager of The Commercial Cable Co., has issued a statement to the effect that the company's business could not be conducted at lower rates than are now charged. It is stated in his report that 98 per cent. of the cable messages now transmitted are in cipher code, and it is estimated that each code word represents on an average 20 plain words, so that cablegrams in code bring the rate down to less than 2 cents a word for the translated message. Another point made is that because of the difference in time between Europe and America the business hours common to both countries are only a small part of the day. But for the necessity of transmitting so much business within three or four hours each day Mr. Ward says that one-half of the present number of Atlantic cables would be sufficient to carry all the traffic now offered. Mr. Ward says: "The Atlantic cable rate is the lowest cable rate in the world except where a government pays the deficit by taxes."

THE GERMAN CABLE TO BRAZIL.

AN important amount of gutta-percha will be required for the new cable now building in Germany to connect that country with Brazil. The Brazilian government has granted a concession to the Felten & Guillaume-Lahmeyer-Werke Actiengesellschaft, of Mülheim on Rhine, to lay a cable from either Pernambuco or Maceio, in Brazil, to Teneriffe island, in connection with which arrangements are to be made with the South American Cable Co. to the west coast of Africa, the cable to Brazil to be in operation within three years from October 27, 1908. For the operation of this cable there has been formed at Cologne, Germany, the Deutsch Sudamerikanische Telegraphen Gesellschaft with a capital of 4,000,000 marks [= \$952,000]. The German government, it is understood, will grant a subsidy to the concern which will guarantee the interest and the amortization of the debentures which it may issue. The cable is to be manufactured by the important company the works of which, at Nordham on Weser, were described in THE INDIA RUBBER WORLD January 1, 1908 (page 109). A fact which makes this information of interest to the trade in general is the connection with the German cable interest of Herr Franz Clouth, the important rubber manufacturer of Cologne.

PROGRESS IN WIRELESS TELEGRAPHY.

ABOUT 70 British-owned ocean going steamers are now equipped for wireless telegraphy, and the Board of Trade is reported to be about to recommend legislation requiring all British-owned ships to be so equipped. The Brazilian government is reported to have ordered four land stations to be equipped with the Marconi system, in the neighborhood of Rio de Janeiro. The Norddeutscher Lloyd steamers have 17 Marconi installations at work.

News of the American Rubber Trade.

RUBBER SHOE FACTORIES RESUME.

THE rubber shoe factories for the most part will resume operations actively with the beginning of this month, which marks the beginning of the business year in this branch of the trade. During the past winter the factories were operated with much less than the customary regularity, owing to the unfavorable weather conditions which, during the earlier part of the winter, caused a lessened demand for rubber footwear. During March, however, most of the factories were in operation, so that a shut-down of only a week prior to April 1 occurred in the case of most of them, for the purpose of the annual inventory customary at the end of the business year. As a rule the grinding of rubber will begin on Monday, April 5, and work will be resumed in the various departments day by day, so that the factories will be in full operation before the end of the week.

RUBBER SUBSTITUTE FACTORY BURNED.

THE factory buildings at Fairfield, Connecticut, of Tyson Brothers (Robert E. and William H. Tyson), makers of rubber substitute and supplies, were entirely destroyed by fire early on the morning of March 6. The origin of the fire is unknown, but it is supposed to have started from a back draft from the furnace. Owing to the inflammable material in stock the fire soon gained such headway as to be beyond the control of the local firemen. Tyson Brothers speedily secured another plant at Stamford, Connecticut, and already are in a position to fill orders, of which they have a very satisfactory number in hand.

AFFAIRS OF EUGENE ARNSTEIN.

IN the matter of the bankruptcy of Eugene Arnstein, manufacturer of rubber cements, in Chicago [see THE INDIA RUBBER WORLD, March 1, 1909, page 225], a meeting of merchandise creditors was held in Chicago on March 5, at which was appointed a committee to examine into the assets and to protect the merchandise creditors. The chairman of the committee is T. R. Palmer, president of the Continental Rubber Works, Erie, Pennsylvania. It appears that the merchandise liabilities amount to \$133,000, and that there is owing to the banks and others \$110,000, in addition to a claim of a former employé for \$40,000, with which latter item the creditors' committee desire to take no action. Counsel for Mr. Arnstein have submitted to creditors a statement showing liabilities of \$290,500 (including the claim of the former employé) and assets of \$217,000.

RECENT ANNUAL ELECTIONS.

THE Cincinnati Rubber Manufacturing Co. (Cincinnati).—J. M. Crawford, president; Fred A. Geier, vice-president; S. D. Baldwin, treasurer and general manager; F. D. Scherl, secretary; additional directors, Casper H. Rowe, James A. Green, Samuel E. Hilles, and George McG. Morris.

Marion Insulated Wire and Rubber Co. (Marion, Indiana).—Directors: J. L. Barley, Robert J. Spencer, L. C. Lillard, John Prior, M. Gartland, C. E. Van Vactor and R. E. Lucas. Mr. Gartland succeeds Joseph Hulley, a member of the board from the beginning, retired on account of ill health. Officers: J. L. Barley, president; Robert J. Spencer, vice-president; Hiram Beshore, treasurer; R. E. Lucas, secretary and general manager.

FAILURE IN THE WINDOW STRIP TRADE.

A PETITION in bankruptcy has been filed against Roebuck's Weather Strip and Wire Screen Co., of New York and Brooklyn, by an attorney for creditors with claims for \$71,769. It is alleged that the company is insolvent and committed an act of bankruptcy on March 2 by making a preferential payment of \$1,200 to a certain rubber company. Lindsay Russell has been appointed receiver. In December last the company reported assets of

\$252,744 and liabilities of \$104,811. The business was established in 1858 by Samuel Roebuck, who died on February 9 in his eighty-first year, after having retired from business.

NEW INCORPORATIONS.

L. J. MUTTY Co., February 4, 1909, under the laws of Massachusetts; capital authorized, \$120,000. Directors: Louis J. Mutty, president and treasurer; Robert R. Gurney, clerk; John B. Mutty. They succeed to the business of L. J. Mutty Co., who for some years have been supplying mackintosh cloths for automobile tops and such like goods at No. 276 Devonshire street, Boston.

Liberty Rubberized Specialty Co., January 8, 1909, under the laws of New York; capital, \$5,000. Incorporators: Henry Feldman (No. 2170 Fulton street), Louis Smith, and David Cohen, all of Brooklyn, New York.

Dick Rubber Manufacturing Co., February 10, 1909, under the laws of New York; capital, \$1,000. Gustave Weinburg (No. 17 East Ninety-seventh street), and Maurice M. Faber, New York city; Richard Shippen, Hoboken, New Jersey.

Dependable Auto Tire Co., February 3, 1909, under the laws of Delaware; capital authorized, \$1,000,000. Incorporators: R. R. Hansell, George H. B. Martin, and S. C. Seymour, all of Philadelphia.

Indianapolis Rubber Co. (Indianapolis, Indiana), a corporation under the laws of Indiana, on February 19, 1909, qualified to transact business in Illinois, under the foreign corporations act of the latter State. Object, the manufacture and repair of rubber goods.

Buffalo Rubber Tire Co., February 11, 1909, under the laws of New York; capital, \$5,000. Incorporators: George M. Steele, Thomas C. Ringgold, and George C. Criuel, all of Buffalo, New York.

Universal Rim Co., February 25, 1909, under the laws of Illinois; capital, \$100,000. Incorporators: Charles Gilbert Hawley, Ross E. Aiken and Erle K. Baker. Principal office, 800 Railway Exchange building, Chicago.

The A. E. Alling Rubber Co., March 3, 1909, under the laws of Connecticut; capital \$15,000. Incorporators: Arthur E. Alling, F. W. Alling and Clarence E. Alling. The new corporation takes over the business of The Alling Rubber Co., of New Haven, incorporated May 9, 1901, to acquire the wholesale and retail rubber goods store at No. 13 Church street in that city. Arthur E. Alling, president and treasurer of the new corporation, has been interested in the Alling rubber syndicate from the beginning, and connected with the New Haven store since it was acquired by the Alling interest. He will continue in charge of the store.

Royal Rubber Co., March 8, 1909, under the laws of Ohio; capital \$50,000. Incorporators: A. M. Cole, Samuel J. Cole, George N. Eby, Edmund H. Cole, Oscar Dickerhoof and H. N. Eby. The company will succeed the Eagle Rubber Co., recently incorporated for the manufacture of druggists' sundries and molded goods at Barberton, Ohio. The new company intend to enlarge the manufacturing facilities and locate in Akron. George N. Eby has been the principal owner of the business.

Continental Caoutchouc Co., a corporation of New York, on March 9, 1909, qualified to transact business in Illinois under the foreign corporations act of that State. The incorporators named are E. S. Williams, W. H. Gleason, and C. C. Case. The capital in Illinois is \$50,000.

Dow Rim Co., March 15, 1909, under the laws of New York; capital \$100,000. Incorporators: Francis J. Erwin (No. 219 West Twelfth street), and William H. Heagerty, New York city; Emma W. Renné, Hoboken, New Jersey.

NEW FACTORY OF THE TRAUN RUBBER CO.

THE name Traun has long been known in connection with the manufacture of india-rubber, dating back very many years at Harburg a/Elbe. Some years ago the parent company established an agency in the United States for certain of their goods manufactured in Germany, and in addition started a small factory in Brooklyn, which was then called the Excelsior Rubber Co. Later they purchased a plant in College Point, Long Island, which they equipped with rubber machinery, and notably enlarged their line of products. To-day this factory, operated under the style Traun Rubber Co., under the management of Mr. Felix Schwemer, vice-president and superintendent, is a model in its line. The goods manufactured are largely specialties, such as dental and stamp rubber, together with a fine line of druggists' sundries. As would be expected much has been done in hard rubber, particularly parts that are applicable to the druggists' sundries line.

The factory buildings are of brick, of mill construction, and equipped throughout with modern labor saving devices. The power plant consists of two boilers of 250 H.P., a 200 H.P. high speed Hewes & Phillips engine, and an electric lighting plant. The rubber machinery embraces a washer and mixer, 4 grinders, 1 calender, several tubing machines, and a number of large double ended vulcanizers. The factory has a fully equipped machine



PLANT OF THE TRAUN RUBBER CO. (COLLEGE POINT.)

shop, a department where it makes all of its own molds, and a blacksmith's shop for heavy work. The business employs about 200 hands. The present plant is so laid out that there is plenty of room for expansion, and indeed plans are already in hand for more buildings and additional machinery.

The product of the factory is marketed through the New York office and salesroom, under the direct charge of Mr. William Schrader, treasurer of the Traun Rubber Co., and Mr. William Ehlers, secretary.

TRADE NEWS NOTES.

THE Merchants' Association of New York has elected for the ensuing year: Henry R. Towne, president; Gustav H. Schwab, William A. Marble, and Robert C. Ogden, first, second and third vice presidents; Gustav Vintschger, treasurer; Samuel C. Mead, secretary, and Hon. John W. Griggs, counsel.

At the dedication of the new factory of Wilkie Rubber Manufacturing Co., whose removal from Lynn to Saugus, Massachusetts, was reported lately, the employes' association called the Ebonite had charge of the program, which was interesting and carried out with great success.

A recent fire at Dallas, Texas, was reported to have caused damage to the amount of \$15,000 to the stock of Appel & Burwell Rubber and Tire Co.

The plant of Imperial Rubber Co. (Canton, Ohio) was damaged by a recent windstorm which removed a large part of the roof.

TRADE NEWS NOTES.

THE directors of Boston Woven Hose and Rubber Co. declared a semi-annual dividend of \$4 per share on the common stock of the company, payable on March 15.

Siemon Hard Rubber Corporation (Bridgeport, Conn.) have appointed as their Western representative George T. Westcott, No. 152 East Lake street, Chicago, for the sale of their telephone and other goods made of hard rubber substitute.

Hope Webbing Co. (Providence, Rhode Island) have arranged for the sale of their electrical tapes and kindred goods in Western territory through the Belden Manufacturing Co., of Chicago.

General Electric Co. have removed their New England branch office from No. 84 State street, Boston, to their works at West Lynn, Massachusetts.

The copartnership existing between Max M. Berzen and Nat E. Berzen, under the firm name of M. Berzen & Co., dealers in scrap rubber and manila rope, at No. 226 Front street, New York, has been dissolved as from March 1. The business will be continued at the same address by Nat E. Berzen.

The fortieth regular quarterly preferred dividend of $1\frac{3}{4}$ per cent. of the Rubber Goods Manufacturing Co. was payable on March 15, checks being mailed to register addresses.

Mr. Frank H. Van Derbeck, for some years in charge of the railroad rubber department of United and Globe Rubber Manufacturing Cos., at Trenton, New Jersey, has resigned to accept a similar department for the Hewitt Rubber Co., at Buffalo, New York.

Mr. Frank R. Henderson, after an experience of ten years in the crude rubber market, and latterly a member of the firm of Robinson & Co. (New York), in this trade, will be established in business as a rubber broker on his own account, at No. 82 Beaver street, New York, from March 1.

Connecticut Rubber Co. (Hartford, Conn.), incorporated November, 1901, and engaged before and since in the retail rubber goods trade, have applied for the appointment of a receiver. The company is reported solvent, but the owners desire to go out of business.

Hugh Bullock, late assistant superintendent of the Beacon Falls Rubber Shoe Co., has removed to Malden, Massachusetts, where he will be factory manager of the new Converse Rubber Shoe Co.

The H. F. Taintor Manufacturing Co. give notice of the removal of their offices from No. 200 Water street, New York, to No. 2 Rector street (in the United States Express building).

Henry L. Shippy, connected with the business of John A. Roebling's Sons Co. since 1875, and latterly treasurer of their New York branch, has resigned on account of his desiring to retire from business, and is succeeded by W. P. Bowman, hitherto manager of the Roebling's Cleveland branch.

Mr. R. J. Owens assumes his new duties as manager of the New York branch of the Boston Woven Hose and Rubber Co. on April 1, filling the vacancy made by the resignation of Mr. W. F. Foster. Assistant Sales Manager H. S. Marsh will succeed Mr. Owens as manager of the Boston branch.

Referring to newspaper reports that the United States Rubber Co. were considering the lowering of their prices, the company have authorized a denial, pointing out the considerable advance in crude rubber that has taken place since the present prices for their goods were fixed.

The directors of the United Shoe Machinery Co., at a recent meeting, in addition to the regular quarterly dividend of $1\frac{1}{2}$ per cent. on the preferred and 2 per cent. on the common stock, declared a stock dividend of 10 per cent. on the common stock and an extra 2 per cent. besides. The annual report for the year ending March 31, 1909, is expected to show as large net earnings as for the preceding year, as operating expenses should show a substantial decrease through curtailed factory operations.

NEW INCORPORATIONS

ELECTRICAL Insulating and Specialty Co., February 24, 1909, under the laws of Ohio; capital, \$50,000. Incorporators: Samuel S. Jeffries, Dr. H. E. McClery, Joseph McCann, Oren Jeffries, and O. C. Ingalls. The company will manufacture at Cleveland, Ohio, a substitute for rubber, for insulating and other purposes. Charles C. Clark has been elected president.

Reliable Rubber Co., February 1, 1909, under the laws of New York; capital \$15,000. To manufacture rubber clothing, sundries and specialties. Samuel L. Riley, president; Louis Brown, vice-president; John A. Riley, secretary, Horace E. Patrick, treasurer; Henry G. Gerhard, superintendent. Main office: Tuckahoe, N. Y.; factory, Bronxville, N. Y.

Philadelphia Rubber Paint Co., February 11, 1909, under the laws of Delaware: capital authorized \$100,000. Incorporators: Charles W. Lamon, Boylston J. Gossler and W. I. N. Lofland.

Jamison-Semple Co., March 3, 1909, under the laws of New York; capital \$30,000. To make surgical rubber goods. Incorporators: James Gough Jamison (No. 309 West Ninety-third street), Thomas D. Semple and Bernard A. Jamison, all of New York City.

AN ASBESTOS MONOPOLY.

REPORTS from Canada are that an important merger of asbestos interests has taken place, under the style Amalgamated Asbestos Corporation, Limited, with a capital of \$17,500,000, of which \$7,500,000 in first mortgage bonds, \$1,875,000 in cumulative 7 per cent. preferred shares, and \$8,125,000 in common shares. It is estimated that the new corporation will control 70 per cent. of the world's present production of asbestos.

REMOVAL OF THE ARCHER RUBBER CO.

THE Archer Rubber Co. (Milford, Massachusetts), have removed to the factory building formerly occupied by the Milford Rubber Co., in the same town. The sale of the premises to Frank P. Lee was reported in these columns last month. Mr. Lee is treasurer of the Archer Rubber Co., incorporated something over two years ago to engage in the waterproofing trade; the president is Calvert B. Archer, formerly superintendent of the Milford Rubber Co.

INCREASE OF CAPITAL.

THE Seamless Rubber Co. (New Haven) have filed with the secretary of state of Connecticut a certificate of increase of their capital stock from \$300,000 to \$400,000. It is understood that an important programme of business extension is being developed by the company. It is just seventeen years since THE INDIA RUBBER WORLD reported an increase in the capital of the Seamless company from \$50,000 to \$100,000, and such increases have continued to be made until the total now reaches the large figure mentioned above.

HEANY INSULATED WIRE INTERESTS.

A NEW company called The Heany Co. has been organized under the laws of New Jersey, to take over the business of The Heany Fireproof Wire Co. and of the Teter-Heany Development Co., both with plants at York, Pennsylvania. The capital stock is \$3,500,000, and the main office is at No. 25 Broad street, New York. The tungsten lamp business will be in charge of a subsidiary corporation, the Heany Lamp Co. The interests involved are the same as those that control the Habirshaw Wire Co. (New York), several members of the Habirshaw board holding seats in that of The Heany Co.

"THERMOID" BRAKE LINING FOR MOTOR CARS.

AN unusually attractive publication entitled "The Automobile of 1909" is an album of views of more than a score of leading makes of automobiles, interspersed with fine photogravures of motoring scenes in different parts of the country. In connection with each make of motor car mentioned its specifications are given, and in each case the brakes are mentioned as being lined with "Thermoid," which is manufactured by the Trenton Rubber Manufacturing Co. (Trenton, New Jersey).

TRADE NEWS NOTES.

THE regular quarterly dividend of \$2 per share on the stock of the Boston Belting Co. is payable on April 1.

The quarterly dividend of 2½ per cent. of Westinghouse Air Brake Co. is payable April 10.

The directors of the Corn Products Refining Co. (New York) on March 16 declared a quarterly dividend of 2 per cent. on the preferred stock, making 5 per cent. for the year, the last three previous dividends having been 1 per cent. quarterly.

The directors of the Canadian General Electric Co., Limited, have declared a quarterly dividend of 1¾ per cent. on the common shares, payable on April 1.

The Boston-Panama Timber and Rubber Co., the incorporation of which was reported in the last INDIA RUBBER WORLD, has been planned to engage in the hard wood export from the "Rio Congo" timber tract in the Republic of Panama, and incidentally to develop any other interests for which this region may be suited, including the collection of wild rubber. Charles G. Brazier, of Collins & Fairbanks Co., No. 381 Washington street, Boston, is among those interested.

The Commercial Cable Co. will lay a submarine cable between New York and Newfoundland, 1,700 miles in length, at a cost of \$1,500,000 or more. The cable will be built up by the Telegraph Construction and Maintenance Co., Limited (London), and under the contract is to be in operation not later than August 1.

Mr. B. T. Morrison, having retired from active business, after having been identified with the rubber trade for twenty-three years, latterly as treasurer and general manager of the Reading Rubber Manufacturing Co. (Reading, Massachusetts), Mr. William H. Marland has been elected treasurer of this company.

J. & H. Phillips, dealers in rubber goods and linoleums at No. 136 Sixth street, Pittsburgh, since 1855, have leased for ten years a new building on Liberty avenue, which they will occupy in future. Five members of the firm are heirs of an estate to which the Sixth street building belongs, and the building has been vacated by the firm to facilitate a division among the heirs.

The Massachusetts Chemical Co. are making further additions to their plant at Walpole, Mass. The present addition is to accommodate the increase in the business of the molded rubber department. Bushings, pump valves, rubber mats and car steps are also some of the specialties of the rubber department of the Massachusetts Chemical Co.

The Buffalo (New York) office of the New York Belting and Packing Co., Limited, has been removed to No. 260 Carolina street.

The Merchants' Association of New York has taken action protesting against a proposition now being considered by the ways and means committee of the house of representatives at Washington, having in view a change in the basis of assessing dutiable values from the present basis of current market values in the country of export to the selling price in the United States.

The Monroe Rubber and Metal Co. (Rochester, New York), have certified to the secretary of state an increase of capital stock from \$3,500 to \$7,000. Abraham E. Hork is president and Joseph Marine secretary.

The Empire Automobile Tire Co. (Trenton, New Jersey) are erecting a large addition to their plant—a duplication of the building put up a year ago.

Mr. Alexander O. Holroyd, who came to the United States with the first introduction here of the Dunlop tire, and latterly at the Hartford Rubber Works Co., as manager of their Dunlop tire department, has gone to Daytona, Florida, as manager of the Prince George Hotel there.

The Fisk Rubber Co. (Chicopee Falls, Massachusetts), are referred to as having closed a contract for equipping with their removable rims and bolted-on tires all the machines which may be turned out this year by the Webb Motor Fire Apparatus Co., of Vincennes, Indiana, the initial order calling for 50 sets of

GOES TO THE

RUBBER GOODS MANUFACTURING CO.—ANNUAL.

THE annual meeting of shareholders of the Rubber Goods Manufacturing Co. (New York), for the election of directors and the transaction of any other business which may properly be brought before the meeting, will be held at the principal office of the company, No. 15 Exchange place, Jersey City, New Jersey, on Thursday, April 8, at 12 o'clock noon. Under the New Jersey corporation law no share of stock may be voted at this meeting which shall have been transferred after March 19.

OBITUARY—WILLIAM H. WHALEN.

WILLIAM H. WHALEN died at his home, No. 325 Central Park West, in New York, on March 2. The trouble was uræmia, of which he had been ill for nearly a year. Mr. Whalen was born in Boston on February 5, 1851, and at an early age his tastes led him to find employment in a railroad office—that of the Old Colony road.

On reaching his twenty-first year Mr. Whalen went to Chicago to accept a position with what is now the Chicago, Rock Island & Pacific Railway Co., of which he became assistant purchasing agent. In 1899 he returned to the East, this time as purchasing agent for the Delaware, Lackawanna & Western railroad. At this time he made his home in the Oranges, in New Jersey.



THE LATE WILLIAM HENRY WHALEN.
[Purchasing Agent of the Rubber Goods Manufacturing Co.]

In 1903 Mr. Whalen became general purchasing agent for the Rubber Goods Manufacturing Co. (New York), which position he held at the time of his death. Mr. Whalen had under his charge a large volume of business detail, including at one time the buying of crude rubber for the factories operated by the Rubber Goods company in connection with which it was at times necessary to go abroad. Apart from his business connections, he was prominent in Masonic circles, being past high priest of Normal Chapter, Royal Arch Masons, of Chicago, and holding various other positions. He is survived by a widow and one daughter. Funeral services were held at his late home, and the interment was at East Orange, New Jersey.

* * *

GEORGE C. HOUGHTON, for some years past secretary-treasurer of the National Shoe Wholesalers' Association of the United States, and secretary of the Boston Boot and Shoe Club, with offices at No. 166 Essex street, Boston, died on March 5 at his home in Lynn, Massachusetts, in his sixty-fourth year.

* * *

ROBERT A. PERKINS, whose death was reported recently, was personal attendant to the late Hon. E. S. Converse after that gentleman had become blind, after which he was in the employ of the Boston Rubber Shoe Co. and still later that of the Utica Rubber Co., of Utica, New York.

TRADE NEWS NOTES.

THE old Pope Manufacturing Co.—the New Jersey corporation—have been formally dissolved by a decree signed by Vice Chancellor Howell, of New Jersey. In the petition for the decree it was stated that all claims against the company had been paid. The Pope Manufacturing Co. organized under the laws of Connecticut have taken over from the receivers all the property of the old company, and is now the only Pope Manufacturing Co. doing business.

The treasury department at Washington has issued an order allowing a drawback upon exports of hose supporters manufactured by I. B. Kleinert Rubber Co. (New York), with the use of imported elastic webbing, equal to the duty paid on the imported material, less 1 per cent.

The only feature of the mechanical goods situation is the continued heavy demand for rubber tires, which is estimated by some authorities to take up fully 20 per cent. of the country's consumption of crude rubber.

The factory of the Boston Woven Hose and Rubber Co. at Plymouth, Massachusetts, is being provided with better protection against fire, through the installation of a large water main from the mill pond, connected with hydrants about the premises.

An action has been brought against Sears, Roebuck & Co. (Chicago) by the Beacon Falls Rubber Shoe Co., seeking a perpetual injunction restraining the Chicago firm from using the name of the latter in their catalogues or other publications. Sears, Roebuck & Co. are a mail order house, and the rubber company state that they do not sell in that trade.

Mr. Gove S. Taylor has been appointed general sales agent of the Combination Rubber Manufacturing Co. (Bloomfield, New Jersey), and the marketing of this company's goods will in future be through their New York office, No. 13 Park row. Mr. Taylor was formerly manager of the Peerless Rubber Manufacturing Co.

Rubbertex Cloth and Paper Co., a corporation formed under the laws of Indiana in 1905, have qualified to transact business in Illinois, and the principal offices have been removed from Logansport, Indiana, to Chicago.

Gladiator Packing and Rubber Co., No. 118 East Third street, Los Angeles, California, carry a special line—"Gladiator" brands—of mechanicals and molded goods, together with asbestos and other engine room supplies. Sydney L. Plant is president; C. R. Chase, vice-president and manager; A. G. Wright, secretary; and Citizens' National Bank, treasurer.

William Seward, Jr., some time secretary of the Hartford Rubber works Co. and later with the Seward Rubber Co., has become connected with the sales department of the Michelin Tire Co.

The Bergdoll Co., operating 30 taxicabs in Philadelphia, have closed a contract for the equipment of their cabs hereafter with tires made by The Fisk Rubber Co.

Pope Manufacturing Co. (Hartford, Connecticut), issue for the 1909 trade a handsome catalogue of their "Columbia" and "Hartford" bicycles. These wheels are equipped with the same tires that were formerly made by the Pope company themselves, when they owned the Hartford Rubber Works. Their standard equipment is "Hartford" tires with "G & J" clincher as an option and Dunlop tires for export trade.

TO PLANT RUBBER IN THE UNITED STATES (1).

THERE was registered in England, on February 22, a company styled Myakka, Limited, with an authorized capital of £240,000, to acquire lands in the state of Florida, on the Gulf of Mexico side, in the neighborhood of Tampa bay, and to carry on the business of planters and manufacturers of and dealers in cotton, oils, and fiber, india-rubber, gutta-percha, and other gums. The registered office is at 70 Queen Victoria street, E. C., London.

CONSUMERS' RUBBER CO.

THE Consumers' Rubber Co. (Bristol, Rhode Island), have materially increased their output of rubber-covered wire since January 1, a recent individual shipment aggregating 1,000,000 feet. The company have started the manufacture of a general line of rubber footwear, including tennis shoes, good orders for which are already booked for immediate shipment. They will make a specialty of catering for foreign business on tennis shoes, and claim to be on a competitive basis with any manufacturer of this class of goods.

TRADE NEWS NOTES.

THE original and only refiner of fossil flour, Colonel D. S. Collins, is back in the field and plans soon to visit the rubber trade. His company, the Oxford Tripoli Co., have long been known to both American and European manufacturers.

The Hartford Rubber Works Co. have contracted to supply tires for 25 new De Dion-Bouton omnibuses for the Fifth avenue service of the New York Transportation Co., which company have been using Hartford tires for 10 years.

The Western Rubber and Supply Co. have been incorporated at Kansas City, Missouri, and will handle the products of The Firestone Tire and Rubber Co. (Akron, Ohio), at No. 1737 Grand avenue. The company includes W. E. Fouse and William F. O'Neill, both lately of Akron.

The progress of motoring in Mexico is indicated by the introduction of tire repairing shops in that country. One such establishment is that of Cia. Vulcanizadora Mexicana, S. A., of Mexico City.

Mr. G. Edward Habich, of Boston, well known as a marketer of crude rubber in New England, has just returned from Europe, where he has been visiting important crude rubber houses.

Mesta Machine Co. (Pittsburgh, Pennsylvania) are now manufacturing rubber machinery, and have retained Mr. M. P. Fillingham as consulting engineer.

Mr. Edward E. Huber, of the firm of Eberhard Faber (New York) and secretary of the Rubber Sundries Manufacturers' Association, accompanied by Mrs. Huber, is sailing on April 1 by the steamer *Carpathia* for Naples, for a vacation of two months or more.

The great growth of the automobile industry has caused the public for the most part to overlook the bicycling interest, but the fact that bicycles yet fill an important place in the trade is evident from the success of the Kokomo Rubber Co. (Kokomo, Indiana), founded in the year 1895, and devoted constantly since to the manufacture of tires, though they have never yet taken on automobile tires. Their output lately, however, has included a considerable production of motorcycle tires, which are made in clincher form. Their bicycle tires are of the single tube type.

In the sketch of Mr. R. M. Howison, of the London rubber trade, which appeared in the last number of this journal, his firm was referred to as representing, among other American concerns, the Pennsylvania Rubber Co. It is proper to state that the article referred to was written some time before its appearance, and that when it was printed Messrs. Howison & Co., Limited, had already ceased to represent the Pennsylvania company.

COLT—BARRYMORE.

MR. RUSSELL GRISWOLD COLT and Miss Ethel Barrymore were married in Hyde Park, near Boston, on March 15. The bride is the daughter of the late Maurice Barrymore and Georgia Drew Barrymore, and a niece of John Drew—three of the most notable members of the dramatic profession in America—and is herself a popular favorite on the stage. Mr. Colt is the elder son of Colonel Samuel P. Colt, president of the United States Rubber Co., and at one time held a position in the general offices of that company. He was one of Commodore Benedict's party to ascend the Amazon in the tour described in Mr. Arthur's book, "Ten Thousand Miles in a Yacht." Mr. Colt will enter the Stock Exchange firm of H. L. Horton & Co., of New York.

PERSONAL MENTION.

THE Hon. William M. Tamm, formerly president of the General Rubber Co., and long familiar with conditions of the rubber trade and of the principal rubber producing countries, is the head of the commission appointed some time ago to revise the charter of the City of New York. The report of the commission is now being considered by the legislature of the state, at Albany.

The wedding of Mr. Thomas W. Miller, president of The Faultless Rubber Co., and Miss Helen A. Meyers, the daughter of a prominent manufacturer in Ashland, Ohio, was announced to take place at the home of the bride at noon on March 31.

On March 10, at West Paris, Vermont, was celebrated the sixtieth anniversary of the wedding of Mr. and Mrs. Samuel W. Dunham, there being present 28 of their descendants, including their three sons—Charles W., George L., and Lyndon L.—who are members of the wholesale shoe house of Dunham Brothers Co., of Brattleboro, Vermont, one of the leading concerns of its kind in the United States. The Dunham firm are distributors in the East of the "Ball brand" rubbers, made at Mishawaka.

Mr. A. M. Paul, president of the Davidson Rubber Co. (Boston), who has been suffering from a severe cold, is on his way south for a few weeks' recuperation.

Mr. John H. Flint, treasurer of the Tyer Rubber Co. (Andover, Massachusetts), has returned from a month in Florida.

Mr. Francis H. Appleton, of F. H. Appleton & Sons (Boston), will spend the month of April in Bermuda.

Mr. George M. Allerton, general manager of the Seamless Rubber Co. (New Haven, Connecticut), has been seriously ill, but at last reports was on the mend.

WASTE RUBBER SITUATION.

THE waste rubber market in the United States recently has been marked by the unusual condition of foreign shoes being quoted at prices as high or higher than domestic, which is ascribed to the fact that certain reclaimers accustomed to using imported stock for some of their products do not desire to make a change, and in view of lessened supplies abroad have been paying an advance on imports over the price of domestic waste rubber. The rubber shoes imported in the past have come mainly from Russia, where a standard has been established in quality and packing. Such other rubber shoes as are imported may be bought for a little less. Old rubber shoes are entered largely from other than Russian ports, but the origin is mainly in Russia.

Some two years ago an export duty equal to 2½ cents a pound on waste rubber from Russia went into effect, since which time the trade in such goods has declined very measurably. The two principal rubber factories in Russia have established reclaiming plants, first for their own needs, and latterly have become exporters of reclaimed rubber to an important extent to other European countries. In this they have a distinct advantage, not only in drawing for supplies upon a market near at hand, but in being able to purchase waste rubber more cheaply than the outside world can now obtain Russian stock. It is reported that the Russian companies referred to have approached some important consumers in the United States with a view to establishing trade here. Up to date reclaimed rubber has not been imported in America; on the other hand, large quantities made here have gone abroad. The tariff law of the United States does not specify reclaimed rubber, but imports of such material presumably would be dutiable under the general provision imposing 20 per cent. *ad valorem* on "all articles manufactured in whole or in part" not provided for in the schedule.

BAGPIPES as now made call for a considerable amount of india-rubber, for the bags, which are made "straight" or "shaped," in a variety of forms. Bagpipes are listed by one leading British rubber manufacturer as high as 99 shillings [=about \$24].

THE RUBBER INTEREST IN EUROPE.

DR. ING. ADOLF PRINZHORN.

THE senate of the Technische Hochschule (technical high school) of Charlottenburg (Berlin) have conferred a notable distinction upon Herr Adolf Prinzhorn, until recently managing director of Continental Caoutchouc- und Guttapercha-Compagnie, the honorary degree of doctor of engineering. This is in recognition of the eminent services rendered by him in behalf of the development of the rubber industry in Germany. This is referred to as the first time that a representative of this trade has been thus favored, and the honor is appreciated by the whole rubber interest.

BETTER DUNLOP BUSINESS IN GERMANY.

THE Dunlop Pneumatic Tyre Co., Aktiengesellschaft, at Hanau, closed their second business year with gross trading profits of 870,460 marks [= \$207,169.50], against 829,846 marks last year. General costs amounted to 600,255 marks, and after writing off for depreciation and bad debts, a net profit remained of 223,018 marks, against 105,526 marks last year. A dividend of 4 per cent. was declared—calling for \$49,900—against nothing last year, and the carry over is 75,650 marks.

AFFAIRS OF VOIGHT & WINDE (BERLIN).

THE directors of Gummiwaren-Fabrik Voight & Winde, Aktiengesellschaft, of Berlin, have advised that the company go into liquidation. The company was formed in 1873. The capital for some time past has been 1,000,000 marks [= \$238,210], and until recently good dividends have been paid. The last dividend declared was 3 per cent., and there was none last year. They manufacture mechanical goods.

INCREASE OF CAPITAL AT ST. MARY'S MILLS.

W. & A. BATES, LIMITED, rubber manufacturers at St. Mary's Mills, Leicester, issued recently at par £45,000 in 6 per cent. cumulative preference shares, increasing their total outstanding capital to £109,007. The business was formed in 1863, and organized into a company in 1890. The business was founded by Mr. William Henry Bates, associated with whom was Mr. Hugh Faulkner, and both are now members of the board. They manufacture a wide variety of rubber goods, but their tire trade particularly has been growing of late. The average annual profit for three years past is stated at £19,337 11s. 7d., and for the year ended August 31 last, £23,648 13s. 4d.

PROFITS OF BRITISH COMPANIES.

TELEGRAPH Construction and Maintenance Co., Limited, report a net profit for 1908 of £61,896 [= \$301,216.88], after charging interest on debentures. The company's general business was satisfactory, and the plant is maintained in good condition. Dividends for the year total 15 per cent.; for the three preceding years, 15, 15, and 17½ per cent.

W. T. Henley's Telegraph Works Co., Limited, report a net profit for 1908 of £71,274 [= \$346,854.92], the increase in gross profits being nearly £6,000. Dividends were as usual—15 per cent. on the ordinary and 4½ per cent. on the preferred shares.

Liverpool Electric Cable Co., Limited.—At the Seventh annual meeting (Liverpool, December 22) the dividends declared for the year aggregated 7½ per cent., with a bonus of 2½ per cent., making a total of 10 per cent.

GREAT BRITAIN.

THE trustees under the will of the late James Dick, one of the founders of R. & J. Dick, Limited (Glasgow), have allocated the sum of £311,500 [= \$1,515,914.75] out of the residue of the estate to Scottish charities, 160 of which have shared in the bequests.

The Peerless Rubber Manufacturing Co. (New York) are now represented in Great Britain by Carr Brothers, Limited, 11 Queen Victoria street, E. C., London, who are stocking "Rain-bow" packings and other specialties of the Peerless company.

Sinclair Rubber Co., Limited, registered in Edinburgh, Novem-

ber 20, 1908; capital, £5,000 [= \$24,332.50]. The object is to acquire the business of the Sinclair Rubber Co., Edinburgh, and certain allied businesses carried on by J. C. Sinclair, P. F. Gemmell, and D. S. K. Greig, who form the directorate of the new company.

At the thirteenth annual meeting of the Self Sealing Rubber Co. (Birmingham, November 24), the accounts showed a net profit for the year of £1,993 [= \$9,699]. A dividend of 10 per cent. was declared.

The patent rights for Great Britain for the Bailey "Won't Slip" tire have been acquired by the North British Rubber Co., Limited, (Edinburgh).

Mr. Blaisdell, the inventor of the paper-wound lead pencil, is mentioned in our London contemporary as having "invented a core for solid rubber tires, whereby considerable resiliency is attained." It is not mentioned what material is used to afford more resiliency than is inherent in rubber.

Rom Tire and Rubber Co., Limited, registered in London December 11, 1908; capital £5,000 [= \$24,332.50]. Offices, 32 Rosebury avenue, E. C., London.

GERMANY.

THE rubber goods and hemp hose factory of B. Polack, at Waltershausen, earned a net profit of 463,574 marks during the last business year. The dividend was 20 per cent.

The firm Sächsische Packungs-Industrie, Hermann Kramer, at Radeberg, has been wound up.

Carl Poppe, on February 4, celebrated the twenty-fifth anniversary of his connection with Vereinigte Berliner-Frankfurter Gummiwaren-Fabriken. For many years he represented the company effectively in London, after which he was appointed manager at the branch factory at Gelnhausen, since which time he has been joint managing director of his company.

There has been organized at Hanover, Germany, the Continental Caoutchouc Uebersee Compagnie Aktiengesellschaft for the sale generally of the products of the Continental Caoutchouc- und Gutta-Percha-Compagnie of Hanover and Continental Société Anonyme de Caoutchouc Manufacture in Paris. The capital named is 100 marks. The founders named are Messrs. Siegmund Seligmann, Dr. Albert Gerlach and Willy Tischbein—all of the Hanover management.

SWITZERLAND.

THE establishment is announced of a new cable and rubber goods factory at Zürich, under the style Schweizerische Draht- und Gummiwerke A.-G. The capital is 600,000 francs, and Heinrich Neudörffer is managing director.

RUSSIA.

Mr. G. Heyse, manufacturing director of the Russian-American India-Rubber Co., "Treigolnik," has resigned that position, on account of ill health.

LONDON'S COMING TRAVEL EXHIBITION.

A MOST attractive program is that arranged for The World's Touring, Sports, Pastimes, Travel, and Topical Exhibition, for the Olympia, London, July and August next, under the organization of Mr. A. Staines Manders, J. P., whose successful management of the International Rubber and Allied Trades Exhibition, in the same building last September, was so widely recognized. The field of travel and sports is so wide as to embrace a very large proportion of people of culture in every land, and the fact that this novel exhibition will attract widespread attention is attested by the character of the names of the preliminary list of vice-presidents and the advisory committee. Sir Gilbert Parker, D. C. L., M. P., is president, and the list includes not a few who were identified with the Rubber Exhibition, particularly Colonel W. J. Bosworth, who again is to be chairman of the executive committee.

Review of the Crude Rubber Market.

DULLNESS in all the markets for rubber has been the predominant characteristic since our last report, and the latter part of the month showed a general decline in prices, the rate being more marked in connection with Pará than with medium grades. The condition is attributable to inactivity in the consuming markets. General business in the United States has not yet attained normal conditions following the depression which began in 1907, and while there are many indications of improvement, the fact that the tariff schedules are being revised at Washington may be expected to cause—as tariff discussions always do—a slackening of business and industrial activity until a definite result is reached. One branch of the rubber industry, however, seems as active as ever, if not more so—namely, the manufacture of tires.

At the rubber inscription at Antwerp on March 25, when about 290 tons were offered, the prices realized were equal at least to the brokers' estimations, and according to some reports averaged a little higher.

Following are quotations at New York for Pará grades, one year ago, one month ago, and March 29—the current date:

PARÁ.	Apr. 1, '08.	Mar. 1, '08.	Mar. 29
Islands, fine, new	76@77	119@120	119@120
Islands, fine, old.....	none here	121@122	121@122
Upriver, fine, new	77@78	125@126	122@123
Upriver, fine, old.....	80@81	127@128	125@126
Islands, coarse, new.....	41@42	61@62	57@58
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	55@56	96@97	94@95
Upriver, coarse, old.....	none here	none here	none here
Cametá .....	.....	66@67	63½@64
Caucho (Peruvian), ball.	45@46	85@86	83@84
Caucho (Peruvian), sheet	55@56	74@75	73@74
Ceylon (Plantation), fine sheet	83@84	129@130	129@130

AFRICAN.

Lopori strip, prime...108@109	Massai, red.....95@96
Lopori strip, prime, none here	Soudan niggers.....85@86
Aruwimi .....94@95	Cameroon ball.....64@65
Upper Congo ball, red 96@100	Benguela .....59@60
Ikelemba .....none here	Madagascar, pinky...89@90
Sierra Leone, 1st quality	Accra flake.....20@21
.....95@96	

CENTRALS.

Esmeralda, sausage....80@81	Mexican scrap@—
Guayaquil, strip.....70@71	Mexican slab .....57@58
Nicaragua, scrap.....78@80	Mangabeira, sheet ....52@53
Panama .....62@63	Guayule .....30@31

EAST INDIAN.

Assam .....92@93	Borneo .....35@45
Pontianak .....5	

Per Kilo.

Islands, fine .....5\$750	Upriver, fine .....6\$750
Islands, coarse .....2\$500	Upriver, coarse .....4\$750
	Exchange .....15¼d.

Per Kilo.

Latest Manás advices:	
Upriver, fine .....6\$075	Exchange .....15¼d.
Upriver, coarse .....4\$075	

African Rubbers.

NEW YORK STOCKS (IN TONS).

January 1, 1908.....156	September 1, 1908.....133
February 1.....224	October 1.....134
March 1.....123	November 1.....134
April 1.....201	December 1.....179
May 1.....165	January 1, 1909.....156
June 1.....446	February 1.....157
July 1.....334	March 1.....200
August 1.....145	

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			Total	Total	Total
	Fine and		Coarse.	1909.	1908.	1907.
	Medium.					
Stocks, January 31..... <i>tons</i>	180		55	235	110	128
Arrivals, February	1273		481	1754	1307	2205
Aggregating	1453		536	1989	1507	2333
Deliveries, February	1144		460	1604	1355	2137
Stocks, February 28.....	309		76	385	152	196
	PARA.			ENGLAND.		
	1909.	1908.	1907.	1909.	1908.	1907.
Stocks, January 31..... <i>tons</i>	1075	1245	965	180	850	345
Arrivals, February	3930	4250	4030	1165	1870	804
Aggregating	5005	5495	4995	1345	2720	1149
Deliveries, February...	3295	4130	4510	925	1355	700
Stocks, February 28..	1710	1365	485	420	1365	449
World's visible supply, Jan. 31..... <i>tons</i>			1909.		1908.	1907.
Pará receipts, July 1 to February 28....			4,675		5,089	3,014
Pará receipts of caucho, same dates....			22,340		21,195	20,760
Afloat from Pará to U. S., Feb. 28.....			4,090		3,295	2,650
Afloat from Pará to U. S., Feb. 28.....			2,000		657	634
Afloat from Pará to Europe, Feb. 28....			1,420		1,950	1,250

ARRIVALS of rubber of all kinds at Pará from the beginning of the crop year to March 20 amounted to 28,770 tons, against 28,680 tons to the end of March, 1908; 29,390 tons to March 31, 1907; and 28,020 tons to March 31, 1906.

NEW YORK PRICES FOR FEBRUARY (NEW RUBBER).

	1909.	1908.	1907.
Upriver, fine	1.20@1.26	.66@.76	1.10@1.23
Upriver, coarse .....	.91@.96	.48@.56	.95@.98
Islands, fine	1.15@1.20	.65@.74	1.17@1.19
Islands, coarse .....	.57@.61	.41@.46	.69@.72
Cametá .....	.62@.65	.42@.46	.71@.73

In regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street, New York) advises as follows: "There has been a good demand for commercial paper of the rubber trade during March with not much available. Rates have ruled at 4½@5 per cent. for the best names, and 5@5½ per cent. for those not so well known."

Antwerp.

RUBBER STATISTICS FOR FEBRUARY.

DETAILS.	1909.	1908.	1907.	1906.	1905.
Stocks, Jan. 31.....kilos	597,777	1,260,009	618,650	518,695	299,348
Arrivals in February...	300,011	277,443	598,332	414,899	621,946
Congo sorts	184,360	255,000	549,863	338,905	496,318
Other sorts	115,651	22,443	48,469	75,994	125,628
Aggregating	897,788	1,537,452	1,216,982	933,594	921,204
Sales in February.....	566,355	630,348	613,121	318,906	363,894
Stocks, February 28....	331,433	907,104	603,861	614,688	557,400
Arrivals since Jan. 1..	583,966	825,411	916,024	1,019,928	947,027
Congo sorts	370,549	759,451	792,669	753,518	736,027
Other sorts	213,417	65,960	123,355	266,410	211,000
Sales since Jan 1.....	848,268	925,201	970,347	1,149,427	930,988

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for car-load lots, per pound—show practically no change since last month:

Old rubber boots and shoes—domestic.....	85½@83¼
Old rubber boots and shoes—foreign.....	8½@85
Pneumatic bicycle tires.....	5½@6
Automobile tires	5½@6
Solid rubber wagon and carriage tires.....	7 @7½
White trimmed rubber.....	9½@10
Heavy black rubber	5 @5¼
Air brake hose	3½@3¾
Garden hose	2 @2½
Fire and large hose.....	2¾@3
Matting	1¼@1½

Antwerp.

RUBBER ARRIVALS FROM THE CONGO.

MARCH 2—By the steamer *Albertville*

Bunge & Co.	(Société Générale Africaine) Lites	64,000
Do	(Comp. Com. Commercial Congo) 8,200	
Do	(Société Anversoise)	10,300
Do	(Comité Spécial Katanga)	4,800
Do	(Chemins de fer Grand Laes)	2,700
Do	(Cie. du Kasai)	108,300
Société Coloniale Anversoise	(Cie. du Lomami)	3,700
Do		4,900
Do	(Société Ikelamba)	3,400
Société Générale de Commerce	(Lobayi)	9,300
L. & W. Van de Velde		4,000
M. S. Cois.		800
		235,400

Liverpool.

WILLIAM WRIGHT & Co. report [March 1]:

Fine Pará. In spite of continued heavy receipts there has been a good demand, and prices during the first half of the month advanced. Towards the close, however, a quieter feeling prevailed, but there is a strong undercurrent of strength, and a further comparatively slight reaction would induce active buying. America has again taken 120 tons from this market. (Closing value, up river spot 5s. 3d. [= \$1.27 2/3]; islands, 5s. 2 1/2 d. [= \$1.26].)

Rubber Receipts at Manaos.

DURING February and eight months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

	FEBRUARY.			FEBRUARY.		
	1906.	1908.	1907.	1908 '09.	1907 '08.	1906 '07.
Rio Purus-Acre... tons	1,535	1,093	1,092	7,333	7,191	5,224
Rio Madeira.....	339	482	539	2,485	2,308	2,663
Rio Juruá.....	544	873	424	3,108	3,044	2,691
Rio Javary-Iquitos....	342	165	263	4,156	2,365	2,519
Rio Solimões.....	106	88	123	868	1,037	781
Rio Negro.....	119	124	85	390	374	457
Total	2,943	3,425	2,526	16,340	16,319	14,335
Caucho	1,015	1,952	838	4,072	3,580	2,727
Total	3,958	4,477	3,364	20,412	19,899	17,062

London.

MARCH 12.—At to-day's auctions the offering of Plantation rubber from Ceylon and Malaya, the quantity sold, and the average price, compared with the corresponding sale one year ago, according to Gow, Wilson & Stanton, Limited, as follows:

	1908	1909
Number of packages offered.....	651	1,935
Number of packages sold.....	480	1,644
Average price, Plantation.....	3s. 3d	5s. 5d.
Price of hard fine Pará.....	3s. 1 1/2 d.	5s. 3d.

At the auction to-day the larger supplies met with good all around competition, and most of them were sold in the room at prices showing only a small decline of up to here and there one penny per pound from prices a fortnight ago. Parcels of crepe sold up to 5s. 6 1/2 d. [= \$1.34 3/4] and worms at 5s. 6d.

Several lots of "rambong" (*Ficus* rubber) found buyers—16 cases from Sumatra at 5s. [= \$1.21 3/4].

Exports of plantation this year from Singapore (to February 12) and from Penang (to January 24) aggregated 534,594 pounds, against 288,982 pounds for the same dates last year.

PARA RUBBER VIA EUROPE.

	POUNDS
FEB. 23—By the <i>Baltic</i> —Liverpool:	
General Rubber Co. (Fine).....	157,000
Livesey & Co. (Coarse).....	7,000
MARCH 1.—By the <i>Lucania</i> —Liverpool:	
General Rubber Co. (Fine).....	22,500
MARCH 1.—By the <i>Pictoria</i> —Hamburg:	
W. L. Gough & Co. (Fine).....	12,000
Poel & Arnold (Fine).....	9,000
MARCH 4.—By the <i>Oruba</i> —Mollendo:	
New York Commer. Co. (Fine).....	4,000
A. D. Hitch & Co. (Fine).....	3,500
MARCH 4.—By the <i>Cevic</i> —Liverpool:	
General Rubber Co. (Fine).....	22,500
Livesey & Co. (Coarse).....	11,500
MARCH 8.—By the <i>Pennsylvania</i> —Hamburg:	
Rubber Trading Co. (Coarse).....	13,500
Poel & Arnold (Fine).....	16,000
MARCH 8.—By the <i>Celtic</i> —Liverpool:	
General Rubber Co. (Fine).....	27,000
General Rubber Co. (Coarse).....	11,500
Livesey & Co. (Coarse).....	15,000

MARCH 11.—By the *Victorian*—Liverpool:

General Rubber Co. (Fine)..... 22,500

MARCH 15.—By the *St. Paul*—London:

Poel & Arnold (Coarse)..... 22,500

MARCH 16.—By the *Boise*—Liverpool:

Livesey & Co. (Fine)..... 20,000

Livesey & Co. (Coarse)..... 11,500

MARCH 20.—By the *Louisiana*—Hayre:

New York Commercial Co. (Caucho)..... 33,500

MARCH 22.—By the *Campania*—Liverpool:

General Rubber Co. (Coarse)..... 22,500

Livesey & Co. (Coarse)..... 11,500

MARCH 22.—By the *Baltic*—Liverpool:

Ed. Reeks & Co. (Fine)..... 13,000

Ed. Reeks & Co. (Coarse)..... 9,000

Poel & Arnold (Fine)..... 27,000

OTHER NEW YORK ARRIVALS.**CENTRALS.**

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

CEYLON RUBBER CROP CONTRACTS.

Ceylon exports to February 15 were 129,850 pounds, against 93,207 for same time last year.

THE extent to which the rubber growing interest in the Far East is becoming established upon a settled basis is indicated by the forward sale of rubber on contract. The *Times of Ceylon* of recent date mentioned that 16 plantation companies in Ceylon and Malaya had disposed of their crops for the current year to local merchants, on contract. The amount of rubber thus sold was estimated at 740,000 pounds, of the value of £130,000 [= \$632,645]. The price named for crepe and biscuits was 3.70 rupees [= \$1.20, gold] per pound. Ceylon planters deliver to merchants at Colombo for this price. The *Ceylon Observer* comments: "The rubber crop contracts for 1909 point to a firm rubber market throughout this year. This is good news for growers everywhere." The companies named in this connection are not yet among the larger producers, but have won a good position in the industry. It is estimated that from 70 to 80 per cent. of their production will be of a quality to fetch the contract price for "good grades."

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

MARCH 1.—By the steamer *Boniface*, from Manãos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
A. T. Morse & Co.....	481,700	94,800	104,200	87,800	767,900
New York Commercial Co.	171,100	45,700	86,000	303,200	606,600
Poel & Arnold.....	295,800	54,600	192,300	100,100	642,800
Hagemeyer & Brunn....	32,500	300	99,000	.....	131,800
General Rubber Co.....	3,800	2,000	3,500	34,100	43,400
C. P. Santos.....	14,900	4,100	29,600	2,500	51,100
G. Amsinck & Co.....	37,000	5,000	1,200	7,500	50,700
Ed. Reeks & Co.....	8,600	.....	5,800	2,000	16,400
Thomsen & Co.....	1,400	.....	700	.....	2,100
Total	1,046,800	206,500	522,300	537,200	2,312,800

MARCH 11.—By the steamer *Bernard*, from Manãos and Pará:

Poel & Arnold.....	120,400	29,800	32,000	40,400	222,600
A. T. Morse & Co.....	84,700	6,100	22,100	35,100	148,000
New York Commercial Co.	22,500	9,300	72,300	28,900	133,000
Hagemeyer & Brunn....	47,900	2,000	63,700	.....	113,600
C. P. Santos.....	33,900	3,900	4,200	.....	42,000
Ed. Reeks & Co.....	4,700	700	17,800	.....	23,200
General Rubber Co.....	800	700	300	1,000	2,800
Total	314,900	52,500	212,400	105,400	685,200

MARCH 15.—By the steamer *Maranhense*, from Manãos and Pará:

Poel & Arnold.....	235,700	1,300	108,100	153,800	498,900
New York Commercial Co.	129,600	31,000	54,000	139,600	354,200
A. T. Morse & Co.....	161,800	39,300	66,400	87,100	354,600
General Rubber Co.....	6,200	2,800	4,800	60,800	74,600
Hagemeyer & Brunn....	20,700	1,100	62,700	.....	84,500
C. P. Santos.....	46,400	3,900	4,800	3,900	59,000
Ed. Reeks & Co.....	8,100	900	3,600	21,100	33,700
G. Amsinck & Co.....	.....	.....	20,400	11,000	31,400
Total	608,500	71,300	324,800	477,300	1,481,900

MARCH 25.—By the steamer *Horatio*, from Manãos and Pará:

A. T. Morse & Co.....	312,000	55,500	66,800	116,500	551,400
Poel & Arnold.....	132,600	14,900	54,100	46,700	248,300
New York Commercial Co.	45,800	27,200	28,700	106,800	208,500
G. Amsinck & Co.....	.....	.....	94,200	26,400	120,600
Hagemeyer & Brunn....	16,800	1,800	44,900	.....	63,500
General Rubber Co.....	.....	.....	40,700	1,600	42,300
C. P. Santos.....	5,000	2,200	3,200	17,200	27,600
Ed. Reeks & Co.....	.....	.....	13,200	.....	13,200
Total	512,800	101,600	345,800	315,200	1,275,400

FEB. 20.—By the *Merida*—Vera Cruz:

H. Marquardt & Co..... 2,000

American Trading Co..... 1,000

For Havre..... 2,000

A. Klepstein & Co..... 1,000

FEB. 23.—By the *Cienfuegos*—Tampico:

Continental-Mexican Rub. Co. *225,000

New York Commercial Co..... *67,000

Ed. Maurer..... *65,000

Poel & Arnold..... *45,000

FEB. 23.—By the *Byron*—Bahia:

Poel & Arnold..... 28,000

FEB. 24.—By the *El Alba*—Galveston:

Continental-Mexican Rub. Co. *110,000

For Canada..... *11,000

FEB. 24.—By the *Prinz Willem*—Colon:

G. Amsinck & Co..... 4,500

Herzel, Feltman Co..... 2,500

Brandon & Bros..... 1,000

FEB. 25.—By the *Saxon Prince*—Bahia:

A. Hirsch & Co..... 13,500

J. H. Rossback & Bros..... 23,500

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it DOES NOT BLOW UNDER CURE.

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Sole Representative of the MADERO interests in Mexico,
Largest Producers of Guayule Rubber, Operating Nine Factories.

	POUNDS.		POUNDS.		POUNDS.
FEB. 25. By <i>El Mar</i> =Galveston:		W. R. Grace & Co.....	1,000	MARCH 7. By the <i>Simola</i> =Amoy:	
Continental Mexican Rubber Co.....	*112,000	Demarest Bros.....	1,000	P. C. Arnold.....	50,000
FEB. 26. By <i>El Dorado</i> =New Orleans:		MARCH 13. By the <i>St. Paul</i> =London:		A. T. Morse & Co.....	35,000
Eggers & Hunkin.....	2,500	Poel & Arnold.....	7,000	Joseph Cantor.....	5,000
General Export & Com. Co.....	1,000	MARCH 16. By the <i>Hugin</i> =Pampico:		Rubber Trading Co.....	4,000
G. Amsinck & Co.....	4,500	Edward Maurer.....	*56,000	MARCH 19. By the <i>Wald</i> =Hankow:	
FEB. 27. By the <i>Seaguard</i> =Columbia:		Poel & Arnold.....	5,000	Livesey & Co.....	18,000
Maitland, Coppell & Co.....	10,000	Graham Hinkley Co.....	2,000	Poel & Arnold.....	5,000
Kunhardt & Co.....	2,000	For Akron, Ohio.....	*75,000	W. L. Gough Co.....	4,500
A. Held.....	1,000	MARCH 17. By the <i>Nicola</i> =Hankow:		General Rubber Co.....	39,000
FEB. 27. By the <i>América</i> =Colon:		H. Marquardt & Co.....	1,000	MARCH 19. By the <i>Mad</i> =Hankow:	
G. Amsinck & Co.....	5,500	A. Rosenthal Son.....	1,000	General Rubber Co.....	56,000
Jose Julia & Co.....	2,000	Suzarte & Whitney.....	1,000	MARCH 20. By the <i>Libra</i> =Hankow:	
Wessels, Kulenkamp Co.....	2,000	Brandon & Bros.....	1,000	Robinson & Co.....	15,000
Roblau & Van Sickle.....	1,500	MARCH 18. By the <i>Tagus</i> =Columbia:		MARCH 22. By the <i>Tagus</i> =Hankow:	
Brandon & Bros.....	1,500	A. Held.....	1,500	Poel & Arnold.....	100,000
R. G. Barthold.....	1,000	M. Blancha & Co.....	1,000	General Rubber Co.....	30,000
De Lima Cortessa Co.....	1,000	MARCH 20. By <i>El Siglo</i> =Galveston:		Rubber Trading Co.....	7,000
Piza, Nephews & Co.....	1,000	For Canada.....	*11,500	Geo. A. Alden Co.....	8,000
FEB. 27. By the <i>Marquesa</i> =London:		MARCH 20. By the <i>Merced</i> =Vera Cruz:		MARCH 21. By the <i>Con</i> =Hankow:	
Harburger & Stack.....	7,000	H. Marquardt & Co.....	1,500	Robinson & Co.....	11,500
E. Steiger & Co.....	7,000	Graham Hinkley & Co.....	1,500	Livesey & Co.....	23,000
General Export & Com. Co.....	5,000	F. Steiger & Co.....	1,000		
H. Marquardt & Co.....	2,000	MARCH 22. By the <i>Hugin</i> =Pampico:			
E. N. Tibbals & Co.....	1,500	George A. Alden & Co.....	11,500		
Schulz & Maitland.....	1,000	MARCH 22. By the <i>Beano</i> =Pampico:			
Isaac Kuhn & Co.....	1,000	Edward Maurer.....	*145,000		
MARCH 1. By the <i>Princesa</i> =Hamburg:		New York Commercial Co.....	*110,000		
Rubber Trading Co.....	11,000	Poel & Arnold.....	9,000		
MARCH 2. By the <i>Yamori</i> =Pampico:		For Akron, etc.....	2,000		
Edward Maurer.....	100,000	MARCH 22. By the <i>El Sud</i> =Galveston:			
Poel & Arnold.....	45,000	Continental-Mexican Rubber Co.....	*165,000		
For Akron, Ohio.....	45,000	MARCH 23. By the <i>Princesa</i> =Colon:			
MARCH 3. By <i>El Sud</i> =Galveston:		G. Amsinck & Co.....	5,000		
Edward Maurer.....	22,500	Jose Julia & Co.....	2,000		
For Canada.....	15,000	T. Sambrade & Co.....	2,500		
MARCH 3. By the <i>América</i> =Colon:		F. Lapetida.....	3,000		
G. Amsinck & Co.....	1,000	Demarest Bros. Co.....	1,500		
T. Saubrade & Co.....	4,000	Silva Bussenus Co.....	1,500		
L. Johnson & Co.....	2,500	Wessels, Kulenkamp Co.....	1,500		
Simons, Elias & Co.....	1,500	Mecke & Co.....	1,000		
Demarest Bros. Co.....	1,500	American Trading Co.....	1,000		
Henry Mann & Co.....	2,000	Roldau & Van Sickle.....	1,000		
Kunhardt & Co.....	2,500	De Lima, Cortessa Co.....	1,000		
A. M. Capens Sons.....	3,000	Pablo Calvet Co.....	1,000		
Roblau & Van Sickle.....	1,000	Meyer Hecht.....	1,000		
W. R. Grace & Co.....	1,000	MARCH 24. By <i>El Sud</i> =Galveston:			
MARCH 5. By <i>El Monte</i> =New Orleans:		Continental-Mexican Rubber Co.....	*325,000		
A. T. Morse & Co.....	1,500	MARCH 25. By the <i>Tennyson</i> =Bahia:			
K. Mandell & Co.....	1,500	A. Hirsch & Co.....	34,000		
Wessels, Kulenkamp Co.....	1,000	Poel & Arnold.....	11,000		
MARCH 6. By the <i>Merced</i> =Fronteira:		New York Commercial Co.....	11,500		
Harburger & Stack.....	10,000	Rossback & Bros.....	12,000		
E. Steiger & Co.....	4,500				
Strube & Utzke.....	2,500				
E. N. Tibbals & Co.....	2,000				
H. Marquardt & Co.....	1,000				
General Export & Com. Co.....	1,500				
MARCH 8. By the <i>Celtic</i> =Liverpool:					
Poel & Arnold.....	30,000				
MARCH 8. By the <i>Virginia</i> =Pampico:					
Poel & Arnold.....	*55,000				
New York Commercial Co.....	34,000				
Cont. & Mexican Co.....	*35,000				
Edward Maurer.....	35,000				
For Akron, Ohio.....	50,000				
MARCH 8. By the <i>Victoria</i> =Hamburg:					
W. L. Gough Co.....	8,000				
MARCH 8. By the <i>Monus</i> =New Orleans:					
Central American Trading Co.....	11,500				
MARCH 9. By the <i>Celtic</i> =Colon:					
G. Amsinck & Co.....	3,500				
Mecke & Co.....	2,000				
Andreas & Co.....	1,500				
Hirzel, Felman & Co.....	1,000				
Fidanque Bros. & Co.....	1,000				
MARCH 10. By the <i>Prins</i> =Colon:					
A. Rosenthal Sons.....	3,500				
Pablo Calvet & Co.....	2,500				
Mecke & Co.....	2,500				
G. Amsinck & Co.....	1,500				
M. Blancha & Co.....	1,500				
Brandon & Bros.....	1,000				
A. Santos & Co.....	1,000				
MARCH 11. By the <i>Prins</i> =Colon:					
Maitland, Coppell & Co.....	9,000				
G. Amsinck & Co.....	1,000				
Kunhardt & Co.....	3,000				
MARCH 12. By <i>El Albo</i> =Galveston:					
Ed. Maurer.....	*11,000				
MARCH 13. By the <i>Esperanza</i> =Fronteira:					
Harburger & Stack.....	11,500				
General Export & Commis. Co.....	3,500				
E. Steiger & Co.....	2,000				
H. Marquardt & Co.....	2,500				
Graham Hinkley Co.....	2,000				
MARCH 13. By the <i>Pittman</i> =Bahia:					
J. H. Rossback & Bros.....	35,000				
Poel & Arnold.....	22,500				
New York Commercial Co.....	11,500				
A. D. Hitch & Co.....	4,500				
A. Hirsch & Co.....	2,000				
MARCH 15. By the <i>Panama</i> =Colon:					
G. Amsinck & Co.....	8,000				
Piza Nephews Co.....	6,000				
Brandon & Bros.....	4,500				
L. Johnson & Co.....	4,000				
Mecke & Co.....	1,500				
Suzarte & Whitney.....	1,500				
American Trading Co.....	1,500				
Eggers & Hunkin.....	1,500				
Meyer Hecht.....	1,000				

EAST INDIAN.

[*Denotes plantation rubber.]

	POUNDS.		POUNDS.
FEB. 23. By the <i>New York</i> =London:		A. T. Morse & Co.....	*5,500
FEB. 23. By the <i>Merced</i> =London:		New York Commercial Co.....	*15,000
Robinson & Co.....	2,000		
A. T. Morse & Co.....			
FEB. 26. By the <i>Adriatic</i> =London:		Poel & Arnold.....	*15,500
Poel & Arnold.....	2,000	Livesey & Co.....	2,000
A. T. Morse & Co.....	6,000		
Poel & Arnold.....	22,500		
MARCH 1. By the <i>Laubuan</i> =Columbia:		A. T. Morse & Co.....	*13,500
A. T. Morse & Co.....	8,000	For Canada.....	4,000
C. Von Postau & Co.....	*26,000		
MARCH 1. By the <i>Münchhausen</i> =London:		New York Commercial Co.....	*19,000
A. T. Morse & Co.....	*20,000		
MARCH 4. By the <i>Majestic</i> =London:		Poel & Arnold.....	*22,500
MARCH 11. By the <i>Rutenfels</i> =Columbia:		A. T. Morse & Co.....	*20,000
MARCH 11. By the <i>Massachusetts</i> =London:		A. T. Morse & Co.....	*11,000
Livesey & Co.....	20,000		
MARCH 11. By the <i>Lenny</i> =Singapore:		Heabler & Co.....	22,000
O. Isenstein & Co.....	22,000		
MARCH 13. By the <i>Indra</i> =Singapore:		W. L. Gough Co.....	150,000
Heabler & Co.....	18,000		
George A. Alden & Co.....	6,500		
MARCH 13. By the <i>St. Paul</i> =London:		Poel & Arnold.....	22,500
Robinson & Co.....	7,000		
A. T. Morse & Co.....	8,000		
MARCH 15. By the <i>Langdale</i> =Columbia:		A. T. Morse & Co.....	*8,000
Livesey & Co.....	1,000		
MARCH 17. By the <i>Fruttenfels</i> =Columbia:		A. T. Morse & Co.....	2,000
MARCH 23. By the <i>Minneapolis</i> =London:		A. T. Morse & Co.....	*9,000
Poel & Arnold.....	2,000		
Livesey & Co.....	1,500		

GUTTA-JELUTONG.

	POUNDS.		POUNDS.
FEB. 23. By the <i>Sikh</i> =Singapore:		Heabler & Co.....	280,000
George A. Alden & Co.....	180,000		
MARCH 11. By the <i>Terra</i> =Singapore:		Heabler & Co.....	390,000
George A. Alden & Co.....	110,000		
D. A. Shaw & Co.....	55,000		
Winter & Smillie.....	65,000		
MARCH 13. By the <i>Indra</i> =Singapore:		Heabler & Co.....	370,000
George A. Alden & Co.....	220,000		

GUTTA-PERCHA.

	POUNDS.		POUNDS.
MARCH 8. By the <i>Pennsylvania</i> =Hamburg:		Robert Soltan Co.....	30,000
MARCH 8. By the <i>Victoria</i> =Hamburg:		Robert Soltan Co.....	13,500
MARCH 11. By the <i>Terra</i> =Singapore:		Heabler & Co.....	27,000
George A. Alden & Co.....	22,500		
O. Isenstein & Co.....	2,000		
MARCH 13. By the <i>Grenada</i> =Trinidad:		G. Amsinck & Co.....	15,000
C. Tennants & Sons.....	17,500		
MARCH 8. By the <i>Hermes</i> =Trinidad:		Middleton & Co.....	6,500
MARCH 8. By the <i>Grenada</i> =Trinidad:		C. P. dos Santos.....	9,000
MARCH 13. By the <i>Grenada</i> =Trinidad:		G. Amsinck & Co.....	15,000
I. A. Paul & Co.....	3,500		
De Sola & Pardo.....	1,000		
MARCH 23. By the <i>Amsterdam</i> =Rotterdam:		Earle Brothers.....	7,000



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APRIL 1, 1909.

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New York.	
CUSTOM HOUSE STATISTICS.—FEBRUARY.	
Imports:	
India-rubber	Pounds. 10,024,825
Balata	6,670
Gutta-percha	716
Gutta-jelutong (Pontianak)	1,200,501
Total	11,232,712
Exports:	
India-rubber	28,198
Balata	9,151
Reclaimed rubber	28,139
Rubber scrap imported	1,043,246
Value.	
India-rubber	\$7,977,339
Balata	2,474
Gutta-percha	225
Gutta-jelutong	46,321
Total	\$8,026,350

Plantation Rubber from the Far East, 1908.

EXPORTS OF CEYLON GROWN RUBBER.
[Compiled by the Ceylon Chamber of Commerce.]

	Pounds.		Pounds.
To Great Britain...	500,133	To Japan	70
To United States...	253,296		
To Germany	48,908	Total, 1908	912,125
To Australia	39,097	Total, 1907	556,080
To Belgium	5,655	Total, 1906	327,661
To France	2,757	Total, 1905	168,547
To Italy	1,127	Total, 1904	77,212
To India	896	Total, 1903	41,798
To Denmark	186		

EXPORTS FROM THE FEDERATED MALAY STATES.

[Supplied by the Commissioner of Trade and Customs.]

States.	1906.	1907.	1908.
Perak	140,040	255,530	445,580
Selangor	681,040	1,198,751	1,911,399
Negri Sembilan	198,112	530,004	808,612
Pahang	a	a	a
Total	1,028,792	1,984,285	3,165,600

[a The plantations in this state are not yet productive.]

TOTAL EXPORTS FROM MALAYA.

[Including the produce of the Federated Malay States and some from neighboring territory.]

[Reported by BARLOW & Co., Singapore.]

	Pounds.		Pounds.
To Great Britain..	3,026,568	To Australia	20,401
To other Europe..	310,402	To Ceylon	303,445
To United States..	400		
To Japan	10,219	Total	3,671,435
From Singapore..	180,533	1905.	1906.
From Penang	48,267	719,133	1,446,417
		98,636	642,668
Total	228,800	817,769	2,089,085
			3,671,435

SUMMARY.

The total exports of plantation rubber from Ceylon and Malaya for four years have been:

	1905.	1906.	1907.	1908.
Pounds	397,347	1,145,430	2,645,165	4,583,560

The 1908 export was equal to 2,078,644 kilos (2,078 metric tons), which figure may be of interest for comparison with Brazilian and some other rubber statistics. The export of the whole Amazon valley was smaller in the year 1858.

PLANTATION YIELDS (IN POUNDS.)

	1907.	1908.
Vallambrosa Rubber Co.:		
Eleven months ended February 28	204,389	257,856
Highlands and Lowlands Pará Rubber Co.:		
February	12,125	24,471
Lanadron Rubber Estates:		
January-February	24,026	35,300
Anglo-Malay Rubber Co.:		
January-February	47,629	68,728
Ledbury Rubber Co.:		
February		4,756
Kuala Lumpur Rubber Co.:		
Eight months ended February 28		125,988
Linggi Plantations:		
February		35,000
Consolidated Malay Rubber Estates:		
February	4,397	14,519
Bukit Rajah Rubber Co.:		
February	17,240	19,546
Eleven months ended February 28	146,348	176,588
Sumatra Pará Rubber Plantations:		
February		4,950
Malacca Rubber Plantations:		
February		11,000
Perak Rubber Plantations:		
Ten months ending January 31	31,715	58,534

TOTAL YIELDS.

	1907.	1908.
Highlands and Lowlands Pará Rubber Co.	193,505	222,287
Sevemban Estate Rubber Co.	109,055	133,619

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REGISTERED TRADE-
MARK IS STAMPED ON
THE INSIDE.



INDIA RUBBER WORLD

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HEVEA BRASILIENSIS

DICHOPEPS GUTTA

GUTTA-PERCHA

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RUBBER PRICE CONDITIONS.

THE topic of the utmost interest in the india-rubber industry to-day, and that which is most considered, is the present and prospective price of crude rubber. Whether the manufacturer be located at Malden, Manchester, Mannheim, Melbourne, Menin, Milan, Mjondalen, Montargis, Montreal, or Moscow, the question is ever present, as one which must be taken into account in planning every detail for the future. This is a fact which makes the whole rubber industry akin, for the price of rubber everywhere at any moment practically is the same, while the same uncertainty exists as to what the price may be to-morrow. The producers of rubber and the traders in rubber have troubles of their own in relation to the same subject, but here we shall treat more particularly of the manufacturers. Where rubber prices are made, or how they are made, are questions not now pertinent to our purpose. The uncertainty of prices is the thing, and what the consumer of rubber can do about it.

Low priced rubber is not so essential. When every consumer of a given grade of rubber must buy it practically from the same source, and it costs them all precisely the same figure, they are all on the same footing.

Whether the cost is 50 cents or \$1 a pound, or more ^{NEW} would be immaterial—if permanent prices could be counted upon. But they cannot. The average price at New York of fine upriver Pará rubber during the year 1902 was 76 cents; during 1905 it was \$1.28½; since then it has been less, the figure for 1908 declining to 93¼ cents. This year, so far, the price for this grade has kept in the neighborhood of \$1.20. When it is considered that the difference between the highest and lowest year prices here quoted amounts to no less than \$1,157.42 cents per metrical ton, and that these fluctuations usually occur without warning, the buying of raw rubber by consumers approaches almost a speculative basis.

The producers of rubber in the Amazon region, far from satisfied with a condition under which they have no say in fixing the market price of their produce, have determined upon a course of action, in which, with the help of the government and of a great bank, they mean to hold their rubber whenever prices are not high enough to be attractive. Now the holding of rubber anywhere is an expensive practice, when storage costs are considered, insurance, interest on advances—and the inevitable shrinkage in weight. It is well enough to speak of rubber as being a modern necessity, but there are limits to what people will pay even for necessities, and manufacturers would have to halt somewhere in the matter of paying advancing rates on rubber, even were the Amazon region the world's only source. There would be an inevitable check to rising prices, due to increased production and the hesitation of consumers to buy, after which the banks would have to unload, with such results as followed Vianna's state aided rubber "corner"—a fall to half the former prices and loss to everybody concerned.

THE INDIA RUBBER WORLD, a dozen years ago, printed an article on "What Vianna Did for African Rubbers," showing that his speculative "bearing" of the market for Pará rubber opened the way largely for the increased use of African grades. Nowadays, African rubbers having won an established position in the industry, though now apparently falling off in the rate of production, an important new source of supplies has been developed—the Eastern plantations, the product of which (*Hevea*) is better calculated than even the best Africans for supplanting the Amazon rubber in the industry.

Without meaning to advise our friends on the Amazon, it would seem that their best interest lies, not in forcing up prices to an artificial level, but to so improving their business methods as to enable them to sell at a profit at even lower prices than at present. Their devotion to any policy gives the planters of Ceylon and Malaya, backed by unlimited European capital, the very encouragement which they want and most need. The Eastern planters have it in their power

to appeal strongly to the consuming markets in the matter of guaranteeing prices for longer periods than have ever been known in the trade before, and we shall be surprised if this does not strengthen the demand for their product.

STILL WAITING FOR THE NEW TARIFF.

THE consideration of the tariff at Washington continues to receive attention in these pages for the reason that, whether or not such things should be, business of all kinds seems to become less active whenever the nation's legislators happen to be dealing with the rates of duties on imports. Specifically, the duties on imported manufactures of india-rubber do not seem likely to be changed much, if at all, but there are other branches of trade which may be affected to a greater extent, and the rubber industry is so closely dependent upon some of these that its leaders are waiting, with everybody else, for the announcement of the new tariff schedules before a resumption of business activity on normal lines.

Without doubt the pending tariff bill will become law very shortly, with net results differing slightly from the results from the existing law, under which the United States have enjoyed unexampled prosperity. Meanwhile the farmers are planting large crops, manufacturers are in readiness to produce wares of many kinds, and merchants are selling goods. Everything is in readiness for business on a large scale, but for the tariff bugaboo, which with the progress of time becomes less terrible, as the expansion of the country's manifold interests leads the people less and less to single out the tariff for consideration as a public question. To-day nearly half of the imports into the United States are entered free, and the duties on the remainder are imposed with a view to the most equitable distribution of burdens upon the taxpayers. But in the nature of things there can never be general agreement as to how duties should be assessed, what with importers and domestic producers to be considered, writers and speakers of every class, from the practical business man to the *doctrinaire* (not to say crank), and 483 members of the Congress, representing so many and such diverse constituencies. The same difficulty has been experienced for 120 years, however—since the date of the first American tariff law; yet the Congress has always managed to frame up a tariff bill under which the nation prospered, and, after all, each succeeding new schedule has differed from its predecessors much less than is generally supposed.

For several years past the income from the customs has averaged about \$284,000,000, and the average internal revenue of the federal government is \$245,000,000. The total volume of imports is small as compared with the amount of domestic production and consumption, and it is with the latter which the average citizen

mostly has to do. For the greater part, the india-rubber trade is little concerned, except the representatives in America of foreign manufacturers. Since 1846 the duty of imported rubber goods has been 30 per cent or thereabouts, but this does not wholly check the buying here of foreign goods. At the same time, if there were no duties we don't believe that American rubber manufacturers would go out of business. Moreover, we don't believe that a single consumer can figure out how much, or whether at all, the prices of his purchases of rubber are affected by the tariff.

We shall be pleased when the tariff talk is ended and people begin to devote their attention to more important matters.

INDUSTRIAL SLANG.

“TO rubber,” “gum shoeing,” “rubber necks”—are slang words and phrases still potent and amusing to the masses, but a bit of a bore to members of the great industry from which they were cribbed. Their permanence, particularly “Rubber,” meaning to turn and stare after some passing object, illustrates the power that slang has in language building. Of the thousands of slang words coined, most perish after a time, but others are so apt and vital that they become an integral part of the written language to which they attach themselves. The slang word “rubber” appears to be permanent, more's the pity. It is therefore fortunate that the dignified and euphonic term “India-rubber,” to which the *literateurs* and the scholars of the world have been for years committed, is not adapted to the use of the iconoclastic slang-founder. Perhaps as a name for the most remarkable of nature's products it is not quite ideal. If La Condamine, or any one of the earlier investigators had called it “Resilion” or “Multigum,” or had coined some other descriptive name that would be acceptable to all languages, it would have been well. At the same time, India-rubber, with its suggestion of the aboriginal discoverers in the Americas, as well as its first industrial use in Europe, is more than usually apt and satisfactory.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha for the month of February, 1909, and of the first eight months of five fiscal years, beginning July 1:

MONTHS.	Belting, Packing and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
February, 1909 ..	\$93,295	\$54,873	\$366,183	\$514,351
July-January	803,067	958,671	2,088,524	3,850,262
Total	\$896,362	\$1,013,544	\$2,454,707	\$4,364,613
Total, 1907-08...	924,585	1,305,352	2,485,307	4,715,244
Total, 1906-07.	801,238	918,569	2,321,211	4,041,018
Total, 1905-06.	834,554	1,303,164	1,836,312	3,974,030
Total, 1904-05.	591,309	1,018,122	1,541,217	3,150,648

CEYLON RUBBER SALE CONTRACTS.

LATER details are available in regard to the Ceylon rubber crop contracts mentioned in THE INDIA RUBBER WORLD, April 1, 1909 (page 268). Up to date 18 Ceylon companies are mentioned as having contracted for the delivery of their 1909 product (other than scrap) to local merchants, at a fixed price. With one exception this price is 3.70 rupees [= \$1.20 gold] per pound, and the rate named for the remaining company is 3.40 rupees [= \$1]. Since the public announcement of these contracts rubber has changed hands at Colombo at 3.80 rupees [= \$1.23 1/4] for biscuits and sheet, with 3.85 rupees quoted for fine white crepe. The companies mentioned as having sold rubber under the new system are local or "rupee" companies, as distinguished from the companies capitalized in sterling money and registered in London and Edinburgh. The English companies not unnaturally ship their product to London, and the few planting companies in the Far East financed in Belgium are shipping to the Antwerp market.

The local Ceylon companies have been financed to a certain extent by the leading commercial houses of Colombo, and are under no obligation to send their rubber to the markets here mentioned. We quote from the *Ceylon Observer*: "It is interesting to learn that nearly all these contract purchases of 1909 crops in Colombo have been made by one firm on behalf of the American market. Rumor speaks of a coming expenditure of £4,000 sterling [= \$19,466] weekly in these purchases for New York. In any case a firm market throughout the year—and appreciably rising—is the obvious expectation on the part of big manufacturers in the United States."

Color is lent to the *Ceylon Observer's* report by the arrivals at New York of plantation rubber direct from Ceylon, all of which, to date, has been received by a single firm, the total amount for the first three months of the year, according to the statistics of arrivals printed in THE INDIA RUBBER WORLD, reaching over 100,000 pounds. The total arrivals at New York of plantation "Pará," for this period, according to the same tables, including shipments via London, reached 404,000 pounds, of which 93 per cent. was consigned to three firms.

The following companies and estates are mentioned as having sold their rubber under contract this year, the figures indicating the estimated production of the required grades. For the most part these companies are not yet large producers, but they have planted extensively and have in prospect a constantly increasing product:

*Seremban Estate Rubber Co., Limited.....	pounds 120,000
Vogan Tea Co. of Ceylon, Limited.....	67,000
Grand Central Ceylon Rubber Co., Limited.....	60,000
Beverlac (Selangor) Rubber Co., Limited.....	50,000
*Pendamaran Estate	45,000
Pallagodda Estate [Kalutara Co., Limited].....	30,000
*Blackwater Estate (Klang) Rubber Co., Limited.....	20,000
*Ribu Rubber Co., Limited.....	20,000
*Neboda Tea Co. of Ceylon, Limited.....	17,000
Clyde Tea Estates Co., Limited.....	15,000
Perth Estate [Ceylon Tea and Coconut Estates Co., Limited]	12,000
Hanwella Tea and Rubber Co., Limited.....	10,000
The Lanka Rubber Co., Limited.....	10,000
Rayigam Co., Limited.....	9,000
Yatiantota Ceylon Tea Co., Limited.....	8,000
Panawatte Tea and Rubber Estates, Limited.....	6,000
The Kelani Tea Garden Co., Limited.....	6,000
*Kempsey estate	4,000

Total 509,000
[*Ceylon companies with estates in Malaya.]

At the half-yearly meeting of the Ceylon Chamber of Commerce (Colombo, February 26) the formal report that was presented gave the details of exports of plantation rubber for 1908 [see THE INDIA RUBBER WORLD, April 1, 1909—page 272] and commented upon the general improvement in the quality of the rubber exports, now that production is on a larger scale. The

report says: "The best buyer on the local market has been the United States, but foreign countries [Note that America is not included in "foreign."—THE EDITOR] and Australia are interesting themselves in the product, though so far they have not been in so favorable a position to compete with the former; they should, however, in the future be strong competitors. Prices for good biscuit and sheet rubber ranged during the six months from 2.80 rupees [= 90.8 cents] to 3.90 rupees [= \$1.26 1/3] per pound, and the lower grades rose proportionally, and all rubber offered was eagerly taken up by local [Colombo] buyers."

* * *

MR. ALEXANDER BETHUNE, the London correspondent of the *Times of Ceylon*, writes to his paper: "A member of one of the largest firms of American rubber dealers has been in London and has been expressing himself in the most favorable terms as to the prospects of business in the United States. He says that hitherto the exports of Plantation have been so small that many American buyers have neglected the article, but that this is rapidly changing, and he himself fully realizes that in time the export will be as large as the present figures for Pará."

A statement in a recent issue of *The India-Rubber Journal* was to the effect that London rubber producing companies were being systematically canvassed by a New York importing firm, with a view to shipments being made to America direct from estates.

PROPOSED PATENT LEGISLATION.

WIDESPREAD interest is maintained in the operations and effects of the new British patent law, which went into effect in 1908. One of its provisions was designed to confine to British territory the manufacture of articles patented in that country, no matter what the residence of the patentee. Retaliatory measures have been proposed in several other countries [see THE INDIA RUBBER WORLD, March 1, 1909—page 201] including the United States. The latest proposed action of this kind forms part of what is known as the Payne bill—"to provide revenue, equalize duties, and encourage the industries of the United States, and for other purposes"—now pending before the congress at Washington. One section in this bill follows:

SEC. 41. That whenever a patent is issued by the United States to any citizen or subject of a foreign country it shall be subject with respect to manufacture thereunder in this country to all the limitations, conditions, and restrictions that are imposed by the country of said citizen or subject upon the manufacture in that country under patents issued therein to citizens of the United States.

It does not appear as yet that Great Britain has realized any advantage from her new patent law in the matter of transferring to that country any important industry previously established elsewhere. Nor have any notable patents been revoked by reason of non-compliance with the new requirements. There is a liberal time limit, however, as to the establishment in England of works for the manufacture of foreign inventions patented there, and after all some discretion is permitted to the controller general as to the revocation of any particular patent.

Whatever may be true of other fields of invention, it is noticeable that fewer patents relating to the rubber industry have been granted by Great Britain to American inventors during the past year than during some years preceding, although American inventors have been as active as usual in applying for patents at home in respect of rubber and its applications.

THE directors of Galvez Rubber Estates, Limited [see THE INDIA RUBBER WORLD, August 1, 1907—pages 335], have issued a report to March 31, 1908, stating that the principal work undertaken during the period under review had been in the nature of organization and development. In addition to the three estates acquired originally, another small one has been purchased. It is stated that up to October 31, 1908, 138,000 pounds of rubber was gathered, of which 39,971 pounds had been sold at last account, and the balance was being forwarded.

The Editor's Book Table.

NOTES OF A BOTANIST ON THE AMAZON AND ANDES. . . .
By Richard Spruce, F.R.S., Edited and Condensed by Alfred Russell Wallace, O.M., F.R.S. . . . In two volumes. London: Macmillan & Co., Limited. 1908. [Cloth. 8vo. Pp. LI + 518; XLI + 542. Price, \$5.00.]

THE author of this work, a native of Yorkshire, who lived between 1817 and 1893, was one of the most notable naturalists that England has produced. He went to Brazil for the study of botany, arriving at Pará in 1849, and remained in South America until 1864, during which time his contributions to the herbariums of Europe were more important, perhaps, than those from any other one source at any time. He left numerous notes which he was never able personally to put into book form, and from these have been selected the material which appears in the two handsome volumes before us.

The upper Amazon country, when Dr. Spruce began its exploration, was very little known in any way to outsiders, and whoever knows North Brazil to-day can hardly fail to read with interest the story of his experiences for months at a time in regions where he was the first white man who had been seen by the natives. When he first went up the Amazon the site of the present city of Manáos was an Indian village, known as "Barra do Rio Negro," and the existence of rubber in that region was unsuspected. In fact, when he first went to South America the collection of rubber was confined to the immediate vicinity of Pará, at which town the market value of rubber was about 10 pence a pound. Dr. Spruce was not interested except incidentally in rubber, but was making a general botanical survey of the Amazon region. He discovered, however, the existence of various rubber species farther upriver, and more than once attempted to interest the natives in getting out rubber, but generally without success, the world's demand for this material not having become so important as after his time.

Before leaving South America, Dr. Spruce was commissioned by the English government to secure seeds and plants of the *Cinchona* species for transference to British India, at the instance of Mr. (now Sir) Clements R. Markham, who, by the way, was later instrumental also in the introduction of *Hevea* rubber into the Far East. Dr. Spruce rode muleback over the Andes, getting his collection of *Cinchona* seeds and plants to the Pacific over the route between Quito and Guayaquil, now traversed by a railway.

The work of Dr. Spruce having been completed nearly a half century ago, it can have no direct current relation to rubber gathering in the Amazon region. The study of the work, however, is well worth while to-day by those who may be concerned seriously in investments in forest rubber propositions in that part of the world, for the reason that, when one leaves the few centers of population on the Amazon, the forest conditions and the character of the native population has changed so little since Spruce's time. There are, to be sure, better transportation facilities on the Amazon and its leading tributaries, but otherwise, over vast areas explored by Dr. Spruce, conditions have been altered very little.

The editor of these volumes, Dr. Wallace, who was in Brazil during a part of Dr. Spruce's sojourn there, and who is still living, in his eighty-eighth year, is likewise a naturalist of distinction, as will be indicated by the statement that simultaneously with Darwin he announced the theory of natural selection—or "evolution"—his paper on the subject having been read on the same day as Darwin's paper.

JOHN A. ROEBLING. AN ACCOUNT OF THE CEREMONIES AT the unveiling of a monument to his memory. [Trenton, N. J.] Roebling Press. 1908. [Cloth. 8vo. Pp. 63.]

A REPORT of the proceedings at the unveiling of the statue to Mr. Roebling, illustrated in THE INDIA RUBBER WORLD, August 1, 1908 (page 380).

MODERN AIR BRAKE PRACTICE; ITS USE AND ABUSE. A BOOK of Instruction on the Automatic, Combined Automatic, and Straight Air and High Speed Brake. . . . By Frank H. Dukessmith, M.E. . . . (Fifth edition.) Chicago: Frederick J. Drake & Co. 1908. [Cloth. 8vo. Pp. 417 + XXXV. Price, \$1.50.]

THE importance of the air brake in the control of railway trains is now so firmly established that its use as a safety appliance is made compulsory. It may not be generally known, however, that schools for training railway employes in the use of the air brake are maintained. The fact that the practical work before us has gone through five editions within three years is an indication that the importance of thoroughly understanding the use of air brakes is appreciated by railway men. No reference is made in this volume to air brake hose, although no air brake system described in it would be practicable without hose. The author evidently assumes that good hose will be used, and confines his attention to the requisite of a good brake system and the proper use of the same. The makers of rubber hose may be interested in looking over this work as a source of information as to what is requisite in a good air brake system in connection with which their products are to be used.

ENSAYO SOBRE LAS PLANTAS USUALES DE COSTA RICA. Por H. Pittier. Washington: H. L. & J. B. McQueen, Inc. 1908. [Paper. 8vo. Pp. XI + 176 + 30 plates. Price \$1.20.]

THE MEXICAN AND CENTRAL AMERICAN SPECIES OF *SAPIUM*. By Henry Pittier. (Contributions from the United States National Herbarium. Volume XII, Part 4.) Washington: Government Printing Office. 1908. [Paper. 8vo. Pp. III + II + 8 plates.]

THE notable contribution to our knowledge of the botany of Central America covered by the first of these titles is the work of a former director of the Instituto Físico-Geográfico Nacional of Costa Rica, and now connected with the United States department of agriculture. An introduction is written by O. F. Cook, of the same department. The various rubber yielding species of Costa Rica are described here, and the "chicle" tree.

The monograph on *Sapium* species was undertaken as a study of possible rubber yielding species not formerly known. Mr. Pittier treats of the importance of *Sapium* as a rubber yielding genus in South America, where no less than nine species have been recognized as having value. He refers to the position of Huber and Jumelle, who designate as a *Sapium* a tree the product of which is mixed largely with the latex of *Hevea* in the "Pará rubber" region. [See THE INDIA RUBBER WORLD, August 1, 1905, page 365.] There are, as Mr. Pittier has found, several species of *Sapium* in Central America, and at least one in Mexico, and he sees no reason to suppose that some of them may not yield commercial rubber. In the San José valley in Costa Rica, the milk of a *Sapium* is used as a birdlime. We hope to see the work of this botanist followed by practical experiments with the latex of the trees he describes.

(1) A *HEVEA BENTHAMIANA* (MULL. Arg.) COMO FORNECEDORA de Borracha ao N. do Amazonas. (II) Sobre uma Nova Especie de Seringueira *Hevea collina* (Hub.) e as suas Afinidades no Genero. Pelo Dr. Jacques Huber. Pará; 1908. [Paper. 8vo. Pp. 10.]

THE indefatigable director of the Pará Museum continues his studies of the rubber yielding species in the Amazon, in which field he is excelled by no other botanist. The publication before us is a reprint from Vol. V of the *Boletim* of the museum, on the importance of *Hevea Benthamiana* as a rubber producer north of the Amazon, and the new species, *H. collina* and its similarity to other *Hevea* species.

IN CURRENT PERIODICALS.

NOTE sur la Valeur du *Castilloa elastica* en Afrique Occidentale Française. By Yves Henry. = *La Agriculture Pratique des Pays Chauds*, Paris. VIII-69 (Dec., '08). Pp. 515-519.

Ein neues Verfahren zur Gewinnung des Kautschuks auf der Kautschukmilch. By D. Sandman. = *Der Tropenpflanzer*, Berlin. XII-11 (Nov., '08). Pp. 520-524.

The Deresination of India-Rubber—I.

By H. O. Chute

IT is well known that all classes of crude rubbers contain impurities which affect their value, for nearly all the purposes of manufacture. The amount of these impurities varies from a small percentage in the best grades of plantation Ceylon to an amount sometimes equalling 90 per cent. of the total in low-grade Pontianak, and in general the value of a crude rubber decreases proportionally to an increase in the amount of impurities. These impurities are of two general classes.

The first class consists of accidental, or mechanical, impurities, such as water, sticks, stones, leaves, fibers, and such foreign substances as are removed in the processes of drying and washing to which all rubbers are subjected, and their removal constitutes the "shrinkage" which is always considered in valuing crude rubber and which is negligible in the highest grades only. These impurities, being easily removed by all manufacturers, do not depreciate the rubbers to a greater extent than their proportional weight in the whole mass and the cost of their removal.

The second class consists of chemical impurities, and comprises the matters in the original latex, aside from the true gum, or matters which are the product of decomposition or oxidation of the gum. These are resinous bodies which are found in all crude rubbers, and increase usually in amount as the rubber decreases in value. Not being removable in the ordinary purifying treatment, they are not only dilutants, but are of positive detriment in many processes to which the gums may be applied.

The amount of resins in crude rubbers varies greatly, as shown by some analyses which have been published, giving the results of testing various samples of the different varieties. The first publication of value on this subject was made in the *Journal of the Society of Chemical Industry*, by H. L. Terry, in 1889 (page 173). The following table shows the percentage of resins and the melting point of various resins, and the remarks give further description of resins:

Name of rubber.	Resin.	Melting Point.	Remarks.
Pará.....	1.2%	5°C.	Dark brown color; soft and sticky.
Ceará.....	1.3%	2°C.	Yellow; soft and sticky.
Columbian.....	2.8%	....	Brown; dry.
Mozambique.....	3.6%	18°C.	Yellow; glutinous.
Rio Janeiro.....	5.8%	64°C.	Hard, powdery; yellow to white.
Madagascar.....	6.1%	....	Ditto.
Sierra Leone.....	7.4%	....	Brown; contained glutinous body.
Borneo.....	7.9%	28°C.	Light brown; soft.
Assam.....	9.3%	12°C.	Yellow; sticky.
Mangabeira.....	10.5%	82°C.	Hard, like shellac.
African ball (1).....	18.5%	48°C.	Brown; brittle.
African ball (2).....	22.8%	38°C.	Dark brown; of various melting points.
African flake.....	41.2%	26°C.	Ditto.

These figures were obtained after the rubber had been washed, and therefore are based on dry rubber. They resulted from cutting the rubber into fragments and extracting with 90 per cent. alcohol in a Soxhlet extractor.

It is said that these melting point determinations are not of much value, as it is clear that the resins are mixtures. It is to be observed that these resins do not correspond with Spiller's resin, which is an oxidation product of rubber, but these resins are probably produced in the tree before the latex is collected, and no amount of care will produce a rubber free from these resins.

Caoutchouc, which has undergone complete oxidation, consists principally of a hard, brown, transparent substance, shellac-like, called Spiller's resin. This resin is an acid, combines readily with soda and potash, forming soaps which are soluble in cold and hot water. Spiller described this resin many years ago. He found it to contain 27.3 per cent. of oxygen. The chemical formula $C_{10}H_{10}O_2$ has been assigned to this resin, but this would

correspond to only 23.5 per cent., so that this cannot be the correct formula.

No one seems to have examined these resins to determine their exact composition or chemical nature. It is particularly important to know what action takes place with the resins when submitted to the processes to which rubber is treated. Of importance in this connection is a report on the analysis of the different brands of india-rubber by David Spence, PH. D., in the *Quarterly Journal of the Institute of Commercial Research in the Tropics*, of Liverpool, in 1906 (pages 75-77). Some details from this are given here on account of the description of the resins.

"The rubber was cut up very fine and dried in an air oven over calcium chloride at 55° C. until constant in weight. The dried product was then extracted with acetone, the acetone extract being afterwards dried and weighed.

"The residue left after exhaustive treatment with acetone was again dried, and the caoutchouc was estimated in an average sample of the resulting product by digesting the same with chloroform until complete 'solution' of the caoutchouc took place. The colloidal solution was allowed to stand until any coagulated proteid had settled out, and was then filtered and the chloroform evaporated. The thin film of pure caoutchouc obtained from the chloroform extract was dried thoroughly over calcium chloride and weighed. The residue insoluble in chloroform, which represents mineral matter, vegetable fiber, coagulated proteid, and in some cases the so-called insoluble rubber, etc., was also weighed.

"The following results were obtained for samples of the commercial india-rubber before it had undergone any treatment:

GRADES.	Moisture.	Resin.	Rubber.	Residue.
	%	%	%	%
1. Pará, hard cure, South America.....	14.30	2.71	71.09	11.71
2. Ceylon Pará, Ceylon.....	0.53	3.91	90.38	5.03
3. Gold Coast hard lump.....	8.74	19.72	69.22	2.37
4. Gold Coast soft lump.....	10.90	17.71	67.40	4.24
5. Pará rubber, Gold Coast.....	0.27	2.31	93.92	3.30
6. Gold Coast niggers, Gold Coast.....	8.86	4.12	82.54	4.73
7. <i>Ficus Vogelii</i> rubber, Gold Coast.....	0.302	35.37	63.79	0.903
8. Rangoon, Burma.....	0.58	6.81	84.61	8.16
9. Lagos lump, Lagos.....	3.4	10.56	80.88	5.39
10. Lagos root, Congo.....	3.0	3.34	73.35	23.51
11. Congo root, Congo.....	4.30	7.02	83.00	7.74
12. Sierra Leone niggers (a).....	5.3	5.54	80.46	9.05
13. Sierra Leone niggers (b).....	2.9	4.97	65.5	26.40
14. Pernambuco scrap.....	4.8	4.35	58.75	32.31

RESINS.	RESIDUE.
1. Soft, oily.	Insoluble rubber.
2. Hard, glue-like.	Insoluble rubber.
3. Hard but non-crystalline.	Insoluble rubber; bark.
4. Hard.	Insoluble rubber; fibrous material.
5. Soft and oily.	Very little insoluble rubber.
6. Hard and dry.	Largely proteids and some mineral matter.
7. Hard, clean, dry, amorphous.	.....
8.	Bark, small quantity insoluble rubber.
9. Soft and glue-like.	Largely fiber.
10. Hard, dry, amorphous.	Root, fiber, sand.
11.	Root and fiber.
12. Fairly hard but glue-like.	.....
13. Fairly hard.	Bark and other impurities.
14. Hard but not amorphous.	Insoluble rubber and bark.

The variability of the amount of resins which may be found in the various classes of rubber is illustrated by the results of analyses made by Lyman M. Bourne [see THE INDIA RUBBER WORLD, December 1, 1906—page 75.] His table covered 181 analyses of all classes of rubber, and the results of a few of the more important are given here.

Three samples of Ceylon Pará fine averaged 2.5 per cent. resin and 97.5 per cent. rubber with no shrinkage, this being the only variety without shrinkage. The average of 23 samples of Brazilian Pará fine showed 96.6 per cent. rubber and 3.4 per cent. resin, with 17 per cent. shrinkage. Six samples of prime Assam, from India, showed 15.8 per cent. resin. Two samples of Borneo second and one of Borneo third showed 19.3 and 20.7

per cent. resin, respectively. Seven samples of Upper Congo gave 13.8 per cent. resin. One sample of Brazilian strips showed 28 per cent. resin. Three samples of Mexican guayule showed 25.4 per cent. resin and 25 per cent. shrinkage, and seven samples of Pontianak showed 75 per cent. resin and 60 per cent. shrinkage.

In analyzing these samples they were dissolved in benzol and the resin was precipitated by addition of alcohol, the gum remaining in solution. Dr. Weber, in his work on the analysis of rubber, advises that samples be treated by the method of Soxhlet extraction, using acetone as a solvent of the resins while the rubber is not dissolved.

These two processes of analysis are mentioned as they typify the processes which have been used in the large way to separate the resin from the gum. What the effect of the resins is on the gum does not seem to be well known or recognized, and it is evident that if these resins differ greatly in their character their effects would differ considerably. As examples of this, it may be stated that the resin from Pontianak gum is a hard resin, melting above the boiling point of water, and that it is not affected by sulphur at the vulcanizing temperature. It has certain physical resemblances to the ordinary rosin or colophony, but it differs greatly in chemical characteristics.

On the other hand, the resin from guayule rubber is at ordinary temperatures a tarry mass of exceeding stickiness. It is quite susceptible to the action of sulphur, which gradually hardens it, but it at no time is flexible, but when completely hardened is glassy and brittle. Now it is evident that these two resins would act entirely differently in a compound, both while working and when cured.

Of the other resins—that is, those found in other rubbers—very little seems to be known of their action, but as all rubbers with high resin contents sell for lower prices than those with low resin contents, there seems to be no reason to assume that their action is in any case advantageous or their presence desirable.

Most of the analyses which have been published relate to the higher grades of rubbers, whose resin contents are in all cases small, and in these rubbers the influence of the resin is probably negligible in all cases. Of late years there have come on the markets great quantities of low-priced rubbers, such as guayule and Pontianak, whose resin contents are high. These rubbers are offered at prices such that their actual contents of pure gum can be obtained much more cheaply than the same amount of gum can be obtained in the higher grade of rubbers which do not contain any appreciable amounts of resin. It would seem, therefore, that the trade recognizes these resins as being injurious.

If these injurious resins can be extracted from the low-grade rubbers without injuring the gum itself, and in a practical and economical way, it would enable these cheap products to be used in many cases for a higher class of work than they have been used for in the past, and the extraction of the resins would therefore seem desirable.

A number of manufacturers have had their attention called to the possibilities of this work, and a number of experiments have been made on a commercial scale, and some plants have turned out large quantities of deresinated rubber and are still at work, while others have worked for a time and have then discontinued operations. Most of the deresination has been done at rubber goods factories, and most of the product has been used in the same works, so that little has appeared on the market, and few know of the extent of the industry. Very little has been published on the subject, and almost nothing made public as to processes or results.

A number of patents have been taken out in connection with deresinating rubber, however, and it is evident that considerable thought has been given to the subject. In looking over the patent specifications it is seen that the processes of deresination divide themselves into several classes, as follows:

(1) Those processes which depend on the action of alkali on the resins. (2) Those in which a solvent is used which, when hot, may dissolve both the rubber and resin, but when cooled will precipitate out the gums. (3) Those which are a solvent for both rubber and resin, and then precipitate out the gum by addition of another solvent, which will keep the resin in solution. (4) Those which use as a solvent a volatile liquid in which the resins are soluble, but which does not dissolve the rubber to an appreciable extent.

In the next forthcoming issue some of the patents in this field will be reviewed.

THE COLOR OF RUBBER HEELS.

SOME of the larger factories are making a specialty of rubber heels on certain lines of women's and mostly in house shoes, says *American Shoemaking*. In all cases half of the heel is of leather. This heel has bothered some of the finishers, because the rubber would not finish the same color as the leather on the edge, and as a result the edge had two colors. In one of the leading factories, however, they have gotten over this trouble. The edge is blacked and when dry is put on a coarse bristle brush which has been covered with cloth. The operator applies wax repeatedly to the brush or wheel on every few shoes, which helps keep the blacking on the edge. The more often wax is applied the better for the edge. It should be stated that these rubber wheels were a very dark color in the first place, which helped the finish. It is the rubber heel light blue or grey in color that gives most trouble to finishers.

HEELING RUBBER HEELS.

NOTWITHSTANDING that there is an attachment used on a heel-ing machine to put on rubber heels [says *American Shoemaking*] still there are making rooms in which that attachment is not used and a good many rubber heels are put on too. In one bottoming room the heeler was seen sticking the rubber heels to the leather base and then the boy who helps the heeler would nail the rubber heels on by hand. As a rule all shoes with rubber heels have a base of leather, making the finished heel half leather and half rubber. In this case the heeling would have to be styled double deck work, which means twice as much work on every heel, besides the slow hand method. The attachment would spank the rubber heel on the same as it would a regular top-lift.

AUTOMOBILES IN THE UNITED STATES.

IN the pages of *The Hub* (New York)—but we don't know where it got them—are some figures showing the number of automobiles registered in the several states for four years past. The numbers given are: 29,868 in 1905; 56,158 in 1906; 75,783 in 1907; and 129,361 in 1908. The table is not offered as being complete, but even if it were the total number of cars mentioned as having been registered in any year does not indicate correctly the number of new automobiles actually put into commission. In the first place in New Jersey every machine in the state must be registered anew every year, and this is probably true in some other states; besides, many of the registrations are duplicated. This is particularly true of a large number of cars which are registered both in New York and in New Jersey. At the same time not a few of the machines registered in former years have gone out of use. It would seem impossible, therefore, to determine just how many automobiles there are in the United States, but the number no doubt amounts to half of all now in use in the world.

IN view of the limited quantities of gutta-percha leaves available for the factory in Soerabaya, Java, money has been raised, says the *London and China Telegraph*, for the establishment of a similar factory at Bandjermassin, in Dutch Borneo, where gutta-percha leaves are more plentiful.

Americans Planting "Manicoba" in Brazil.

A RUBBER plantation, now becoming productive, and which, considering its extent and potential importance, probably has been less written about than any other in existence, is located in the inland Brazilian state of Piahy. It will be mentioned here in some detail (1) because it is a New York enterprise and (2) because it is devoted to two species of *Manihot*, which only recently have come to notice—those known locally as "Remanso" and "Jequie," and admitted to be superior to the longer known *Manihot Glaziovii* (Ceará rubber).

To reach this plantation one had best start from the seaport of Bahia (São Salvador do Bahia), a city of over 200,000 inhabitants, far down on the coast south of Pará. Here one takes a train for about 360 miles over the government guaranteed railway to Joazeiro, on the important river São Francisco. Below this point navigation is impeded by the Paulo Alfonso rapids, by some considered the greatest in the world. Above the rapids are regular services of steamers, some of them up to 2,000 tons. Proceeding upstream, say to Remanso, one debarks and travels overland for about 72 miles, until São Raymundo is reached. This is in the little grazing state of Piahy—except that it wouldn't be a "little state" outside of Brazil.

Here, beginning some four years ago, a New York firm trading in hides, rubber and other Brazilian products, with a house at Bahia, acquired 54,000 acres of land, covered with rubber and other forest growths, and began systematically to lay out plantations of "manicoba" rubber. First of all, they considered the most desirable conditions for the growth of this species. Different areas have been planted for different reasons. One plan-

tation has been made at the foot of the mountain range back of São Raymundo, with the idea that the drainage from the mountains might prove of value in otherwise dry seasons. Other sites have been chosen on account of the apparent superiority of the soil in them, account being taken of the soil, subsoil, and the underlying rock. One reason for planting on detached areas is that, should fire break out on one, it may expend its force without spreading to another. The number of trees now under cultivation is about 2,500,000, all grown from the seed.

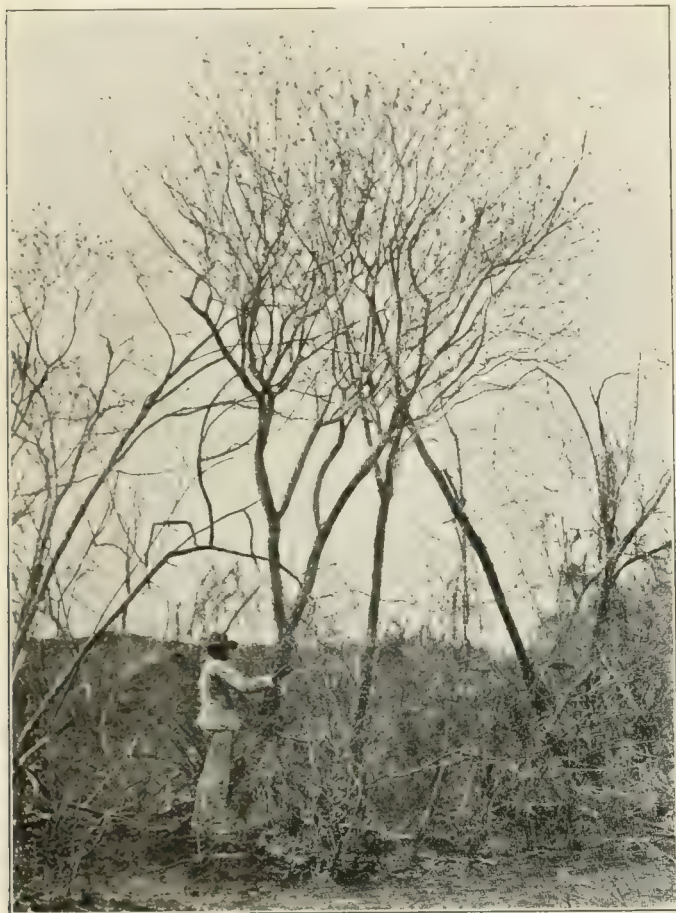
This large number of trees does not imply any such area as would be the case with a similar number of *Hevea* trees—the rubber planted in Malaya. The *manico beira* is, relatively, hardly more than a shrub; it occurs naturally closely grouped, and may be planted at very short intervals. In this case about 1,300 trees to the acre is the average and about three square miles have been planted. Tapping begins at three or four years. There are, as a rule, in addition to the top root—which points downward until moisture is reached—three lateral roots, which are short and stocky, and it is these which yield the latex, under the practice on the plantations at São Raymundo. The Northway tapping knife has proved less satisfactory here than the crude appliance which the natives form by bending a section of barrel hoops and sharpening the edges of the metal at the bend. The natives coagulate the latex in holes in the ground, without the addition of any coagulant; the planting company will, of course, adopt methods better calculated to yield a clean product.

Manicoba rubber trees are tapped at two seasons in the year, about 15 days in each season. While two pounds per tree have



"MANICOPA" RUBBER (*MANIHOT PLAIHYENSIS*) UNDER CULTIVATION IN BRAZIL.

[Plantations of the Brazilian Rubber Plantation and Development Co. in Paul.]



"*MANIHOT DICHOTOMA*," NEAR CALDERAO, BAHIA.
[Photographed by Ernest Ule. October, 1906.]

been obtained, this company will be well satisfied with an average of one pound per year. At the first tapping of 200 three-year-old trees the yield of dry rubber was 71.65 pounds. The yield per tree varied, a single specimen at the first cutting giving 200 grams of latex, or .44 pounds, but this, of course, was exceptional. The best time for tapping has been found to be just after the rainy season, and when the leaves are falling. The yield is markedly less in a dry year, which the company believe to be due to the absorption by the tree of the latex, in lieu of any other supply of moisture. Mr. I. Henry Hirsch, of the company, states that native maniocoba trees, if not tapped, have often been found with the bark cracked, allowing the latex to escape, where it dries on the tree and can be collected in shape for market.

Three species have been planted, which are named here in the order of the relative estimation placed upon the three:

Manihot Piauhyensis (Ule)—Remanso rubber.

Manihot dichotoma (Ule)—Jequie rubber.

Manihot Glaziovii (Müll. Arg.)—Ceará rubber.

Rubber from the new plantation has been marketed already, in New York, London and Bordeaux, with satisfactory results. About April 1 sales were made in New York at 85 cents a pound. The enterprise here reviewed is a private or "close" corporation, The Brazilian Rubber Plantation and Development Co., registered July 6, 1906, under the laws of New York. The president, Mr. Adolph Hirsch, is the head of Adolph Hirsch & Co., commission merchants.

THE DIFFERENT SPECIES OF "MANIHOT."

The rubber tree of Ceará, a Brazilian State, uniformly described as being particularly liable to drought, long has been of interest to the world if only for the reason that it flourishes under cir-

cumstances so unfitted for the success of other rubber species; besides, the product is of a good grade, and the plants fairly productive. The Ceará rubber tree was among the first in South America to be identified botanically, it having been designated by Johann Müller, of Aargau, as the *Manihot Glaziovii*. But the determination of the species having been made from plants grown from the seed at Kew, the question from the first was involved in some doubt. [See a comprehensive article in THE INDIA RUBBER WORLD, November 15, 1890—page 35.]

From the date of the earliest attempts at rubber culture, Ceará rubber was experimented with, either under this name, or *Manihot*, or "maniocoba," which is the native local name for it. The first rubber exported from Ceylon [11 cwt. in 1889] was from planted Ceará, and considerable of this variety was planted, but later *Hevea* rubber succeeded so well in the Far East as almost to overshadow every other kind. In German Africa, however, and in some other regions less well adapted than Ceylon and Malaya, to the *Hevea*, Ceará rubber continues to be planted on a large scale. Why not, then, in its native habitat?

Gradually it became known that the rubber trees or shrubs known locally as "maniocoba" did not all exhibit the same characteristics, and particularly that the trees in different sections possessed different values as rubber producers. The most thorough scientific study of the "maniocoba" rubber, perhaps, is that by Ernest Ule, published by the royal botanical garden and museum, at Berlin. Ule made several journeys into the regions where this rubber is found native, with the result that, in addition to the tree already known as *Manihot Glaziovii*, he described three distinct species: *Manihot dichotoma*, *M. heptaphylla*, and *M. Piauhyensis*.

Three of the four species are illustrated herewith.



PLANTATION OF "*MANIHOT GLAZIOVII*."

[Brazilian Rubber Plantation and Development Co.]
[Trees 2 years and 9 months from seed.]

"Valorization" of Rubber in Effect.

THE legislation requisite for giving effect to the projects for the so-called "valorization" of rubber in Brazil has now been enacted as regards two of the three important rubber producing districts in that republic. The measure adopted by the legislative assembly of the state of Pará [see THE INDIA RUBBER WORLD, January 1, 1909—page 154] has been signed by the governor, and this applies to all the rubber produced in the state of which Pará is the capital. The national budget law of Brazil for 1909 authorizes the president of the republic to grant a reduction from the export duty on rubber produced in the federal district of Acre on terms similar to those embraced in the proposals adopted at Pará. The third and remaining rubber producing district in Brazil of first importance is the state of Amazonas, of which Manáos is the capital.

The federal law, No. 979, of January 6, 1903, offered certain inducements to syndicates that might be organized in the agricultural and rural industries, the benefits to be participated in only by Brazilians. The effect of the legislation at Pará is to extend definitely the provisions of the law of 1903 to the rubber interest, and the act adopted at Rio de Janeiro is of the same purport. The first and major advantage from the proposed legislation is to afford a reduction in export duties on rubber to those who comply with the terms of the law—a reduction so material as to affect seriously foreigners who may be engaged in the exporting of rubber. The object, of course, is to give Brazilians the preference, and the idea evidently prevails that with so large a volume of rubber exports from the Amazon there must be correspondingly large profits, which profits hitherto have gone to foreign firms, thus being in a sense a drain upon the resources of Brazil.

Hitherto the exports of rubber from the Amazon, involving an important amount of capital, have been financed by the exporters, who are almost wholly foreign. The collection of rubber in the Amazon region is facilitated by local merchants who advance supplies to the proprietors of rubber camps on the islands and up the rivers, who in turn distribute these goods to the rubber workers and make shipments of the rubber collected to the provisioners, principally at Manáos and Pará. These latter, termed *aviadores*, are the receivers of rubber in the primary markets, from whom the export houses at Pará, for example, purchase day by day their requirements for the world's trade. Under the new régime the plan is for the *aviadores*, working in connection with the producers of rubber, to keep in touch with the product until it has reached the consumer. The plan looks further, however. There is involved not only earning for Brazilian capital the profits of exporting rubber, but the possibility of controlling prices for the product to a degree which has not yet been witnessed with respect to Pará rubber. In other words, the working out of this system would involve the holding of rubber stocks whenever prices were not satisfactory to the sellers until more favorable opportunities offered for marketing the rubber. In the past the *aviadores*, receiving rubber constantly from upriver customers against advances of merchandise, have been interested in marketing the same as promptly as possible, whether or not a profit was realized, and working independently and without the assistance of other than their own capital, any other course was scarcely open to them.

A new element has been introduced into the situation by the establishment at Manáos and Pará of branches of the Banco do Brazil, of Rio de Janeiro, practically a national institution and descended directly from the first bank known in Brazil founded by royal charter in 1808. The authorized capital of this bank is 70,000,000 milreis and the amount subscribed to date is 45,000,000 milreis, amounting at par of exchange to \$24,570,000.

The Banco do Brazil, based practically on the natural resources, is in position to make advances to *aviadores* on their rubber to an extent impossible in the past by any banking institution on the Amazon, and upon this possibility evidently is based the hope of the rubber producers to hold their rubber in times of low market quotations, and to a degree control the production of rubber. What will be the effect of the new system only time can tell, of course. The valorization of coffee, a product of the southern Brazilian states, has been in effect now for nearly two years, on a somewhat different basis, but opinion is divided, first, as to what results have already been obtained, and secondly, as to what the final and lasting effect upon the coffee market will be. It is clear, however, that the coffee valorization plan has appealed strongly to the native rubber interest, and that the new legislation in reference to rubber is a direct outgrowth from what has been done in respect of coffee.

Two features in the rubber market to-day are attributable to the valorization movement: (1) reports come from Pará that rubber is being held there by certain parties at higher prices than those obtaining in the consuming markets; (2) statistics of stocks of rubber in the consuming markets embrace an unusual volume of "consigned" rubber, implying that rubber is being shipped to New York and Europe through other than the usual channels, which must be regarded as rubber handled by or for Brazilian syndicates under the new system. There are reports of offers of rubber to manufacturers at slightly higher prices than the regular importers are quoting by parties who are supposed to represent such syndicates as are here referred to.

WHAT "LE BRESIL" (PARIS) SAYS.

WISHING to pursue, in the general interest of this country, our inquiry regarding the laws recently passed in Pará and Rio in consideration of the valorization of india-rubber, we have interviewed a person established in the Paris market who is thoroughly posted in regard to this product and to its Brazilian and European markets. This gentleman proved to share the adverse opinions we have previously expressed in respect to these measures which their opponents consider unconstitutional, and he likewise considered them to be merely an artificial expedient which would in the end produce results wholly contrary to the commendable purpose which the governments of Rio and Pará had in view.

There is, first of all, reason to fear that the producers will find themselves in the near future confronted by a market of insufficient volume, as soon as the ample absorbing facilities and elasticity which it has heretofore enjoyed shall have disappeared in consequence of the partial or complete withdrawal of the foreign firms established in Brazil. The producers will then have to deal exclusively with the domestic syndicates, which will compel them to pass under their yoke, unless they resign themselves to wait for higher quotations than those which the syndicates are willing to offer them.

This condition will result in the accumulation of large stocks of rubber in the places of production. In this connection it will be well to remember that rubber will show a loss of weight of about 1 per cent. per month during the first few months after it is placed in storage.

As long as the active trade in the Brazilian market enabled producers to sell all their supplies in advance for future delivery, they were not compelled to face this large contingent loss which may henceforth absorb, or even exceed, the small benefit which the new law intends to reserve for them. They will then be compelled to look to Europe for advances by shipping their cargoes, the arrival of which may cause sudden and disastrous declines in prices.

In this connection we should, however, bear in mind that the accumulation and keeping of large stocks of rubber will scarcely be practicable; or, at all events, it will be exceedingly risky. (1) In view of the loss in weight which the rubber would suffer, while there is not much loss in the case of other products—coffee, for instance, frequently showing an increase in weight; and (2) on account of the high rate of interest that would be charged for loans made on rubber warrants.

These losses in weight and interest charges would be all the more crushing because they must be borne by a very high-priced product of world-wide consumption, and consequently on enormous amounts.

In stating their reasons for the measures taken in Pará and Rio in view of the valorization of rubber, the advocates of these measures upbraided the foreign firms established in Brazil for charging high rates of interest for advances made by them to producers in the interior.

These rates of interest, which range between 10 and 12 per cent., are by no means excessive, being no higher than those charged in similar cases in most of the colonies, such as Indo-China, for instance, although the money lenders run less risk in that country than in Brazil. The rates customarily charged in this country [France] are amply justified by the fact that lenders have no collateral whatsoever, nor any security for the satisfactory settlement of their business operations, which are carried on at enormous distances from their own headquarters; sometimes as far as 50 days' travel from the Amazon, and involve many dangers, such as those frequently incurred in passing the rapids, as well as the dangers inherent to an unusually unhealthy climate.

If the Brazilian producers sorely suffered, as they aver, from a panic in the rubber trade during 1908, they were, alas, not the only sufferers, for their bankers have had to pay ample tribute, in consequence of the general depression which prevailed at that time.

Moreover, the question arises whether the said panic, a recurrence of which the Brazilian legislators appear to be trying to prevent, must be attributed to local conditions, which it could remove or at least modify by legislation.

But such was by no means the case! The crisis which seriously upset the rubber markets of the world was due to the same causes as the panic which successively seized all the markets of every description throughout the world. It was caused by the general tightness of money which was the immediate consequence of the great American panic. The legislators of Pará and Rio believe, more especially, that the measures they have adopted will restore the rubber market to a healthy condition, since dealing in futures has become impossible, and there will no longer be any speculation to disturb the market.

Unfortunately, however, the market, on the contrary, will be restricted to such an extent that the producer will no longer be able to exist, while the speculation—for there will always be speculation in spite of all—will be in the hands of operators belonging to an inferior class, or of such doubtful standing that only its disadvantages will be felt.

Furthermore, it is universally acknowledged in all markets for products of large consumption, as well as the financial centers, that operations in future, largely in conjunction with cash transactions, constitute the factor which creates the ample market activity required for the maintenance of values, and will in a majority of cases allow of a natural leveling of quotations in the various markets of the world, without any excessive jumps.

A BRAZILIAN VIEW OF VALORIZATION.

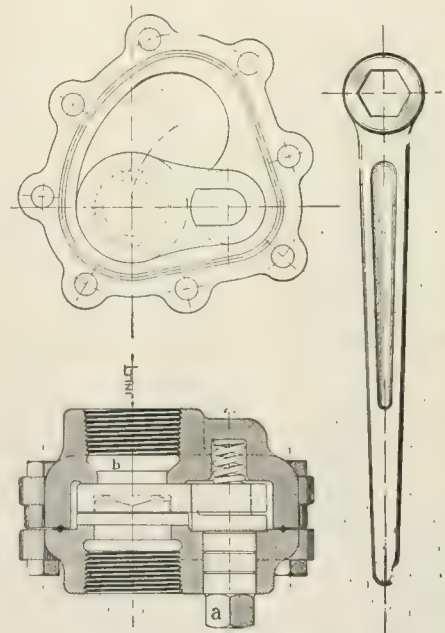
The fluctuations in the prices of rubber such as were illustrated in a chart in this journal [January 1, 1909—page 140] are discussed at length in *The Brazilian Review* of March 9, which remarks that such marked changes are most inconvenient for the producers, who may in a momentary decline see the fruits of

their labor for years swept away. Why, they angrily inquire, should such things be in a world that apparently can never get rubber enough? They are not satisfied always by an explanation which refers merely to the law of supply and demand. The writer in the *Review* does not question the operation of this natural law, but is of the opinion that it is possible by manipulation to so regulate supply that it shall exceed demand, and send prices down, or stimulate demand and send them up, which he considers to have been done. That the relations of supply to demand are generally normal, he says, is shown by the figures to the world's visible supply at the end of each season, which of late have scarcely varied. All the rubber produced has gone into consumption. In the interval, it is true, there may have been moments when supplies coming too quickly into the market exceeded the capacity of the demand, or *vice versa*—circumstances which are liable to be taken advantage of by speculators.

All that is wanted to secure stability of prices according to the *Review* is to eliminate speculation, to do which it is only necessary to keep supply on a level with demand. To keep supply and demand even rubber must be held back at its source until it is wanted for consumption. The writer in our Rio contemporary does not go into details as to how the control of rubber prices can be brought about, but his article closes with the insistence that Brazil, threatened with the competition of the rubber plantations of the Far East, should, while Amazon rubber does still dominate the market, insure to producers a fair price for their rubber, and meanwhile exert every effort to reduce the cost of producing forest rubber and encourage plantations in the native habitat of the *Hevea* species.

"EVERLASTING" BLOW-OFF VALVE.

OSGOOD SAYEN, himself a practical rubber man, has produced many valuable specialties for the rubber trade, but none more valuable than the Everlasting Blow-Off Valve. It is so simple that the illustration is in itself a description. The



"EVERLASTING" BLOW-OFF VALVE.

valve is composed of a top and bottom bonnet, a disc, a lever and a post, and that is all. It is very substantial in construction, has no clogging features and is always clean and tight. This is sold by Osgood Sayen, No. 421 Arcade building, Philadelphia.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

AN innovation of some importance is the offer to the trade of certain well known brands of rubber, which have been semi-washed and standardized. Nothing has transpired as to who is behind this new move, the rubber manufacturers being requested in the advertisements to apply to their ordinary

WASHED RUBBER FOR SALE.

brokers for sample prices and terms. Presumably the rubbers mentioned, which include Madagascar, Borneo and Peruvian, are cleansed in the countries of production, and as there is a rating in freight on worthless material. This, of course, is in the direction advocated for some time by many connected with the trade, if only on the ground that it makes it much easier to judge of the value of a lot by inspection and also to take average samples for analysis. The expression "semi-washed" indicates that the raw rubber is put through a cleansing operation. This, of course, costs money and it remains to be seen whether there really is much saving in this half washing, if the rubber has all the same to be washed at the factory to complete its purification. The expression semi-washed may mean a rather different thing, according to the brand of rubber; some rubbers might be really pure enough for use without further washing, as in the case of plantation sorts. Others, again, like Manicoba, which is specially mentioned, are hardly likely to have all their fine sand removed by any semi-washing. From what I have heard in one or two quarters, there does not seem to be any great enthusiasm in the trade about the new proposal. The large users of rubber, more particularly, will still, I think, prefer to go on buying raw rubber as before, and have it washed under their own inspection. They have got into the way of judging its value with sufficient accuracy, and they can always recognize a particular brand in the raw state—a matter which might not be so easy in the case of semi-washed rubber. Then as they already have capital sunk in washing machinery they seem to think that they may as well do the work. The case will probably be different with small users, who may be attracted by the new move. As far as I know there is only one factory especially washing rubber for the trade, and this is a small concern situated at Holywell, in North Wales.

Of importance to those interested in mining and metallurgy is the long-talked-of combine between the leading European producers. This has recently been successfully negotiated, the main object being the regulation of the output when the market price falls below £19 per ton. How far they will put the price up when trade begins to boom again it would be idle to forecast, but seeing the great increase in the American output in recent years and what may be expected from the Broken Hill dumps, it seems probable that the price of the metal will not go beyond £25 a ton. At the present price of £21 there is not much profit even for good mines, and we may expect a rise. But not to talk any further on the metal, it follows from what has been said that the price of the oxide is less likely to fluctuate in the future than in the past, and I don't think that there need be any fear that the new combination will attempt to raise the prices of the metal and to the high figures of three years ago, unless some extraordinary trade boom should precipitate this as a natural sequence.

In the work "Crude Rubber and Compounding Ingredients" there is a paragraph stating that Charles T. Harris used an artificial bisulphide of bismuth for curing rubber heavily compounded with carbonate of lead. I am always rather suspicious about the reported cures with metallic sulphides, and

have no doubt that this bismuth compound contained free sulphur. However I am not writing specially about this compound, which may or may not have ever come into commerce; I wish rather to refer to the use of bismuth generally. Except in the metallic state as a component of certain mold, I have not so far come across bismuth in any form in the rubber works. I understand, however, that its compounds have at least one important application, and that is in the rubber gloves used by surgeons working with X-ray apparatus. Bismuth compounds, it appears, are quite impervious to these rays and there is a regular sale of bismuth compounded rubber gloves for X-ray hospital use. I don't suppose the total business amounts to very much and a good price, I understand, is charged by the London dealers who specialize in X-ray apparatus. Quite recently an alteration in procedure has led to the use of gloves by the surgeon being abandoned to a great extent, so this paragraph is not worth the attention of the controllers of the American bismuth "ring."

THIS is a matter which is attracting a good deal of attention and comment in England. The interest is by no means confined to our manufacturers who export goods to France; it is also being laid hold of by the mass of conservative politicians

THE NEW FRENCH TARIFF.

as an aid to the promulgation of the tenets of tariff reform, a topic which is in the forefront of the conservative party's programme. But not to enlarge on matters political, there is no doubt that the new French tariff if adopted will hit many British industries hard and a good many representations have been made by chambers of commerce to the French authorities on the basis of the opinion expressed by our manufacturers. It would take up too much space to refer to the proposals as they affect the rubber trade generally, and I shall refer only to a single branch. The most important item in this connection is elastic webbing, the increased duty on which has caused a good deal of alarm in the midland towns where the industry finds its headquarters. The French evidently are desirous of still further protecting their own webbing industry, which is already one of considerable magnitude.

Card clothing for textile mills is practically all imported from England, 19,463 kilograms out of a total import of 19,753 coming from this country. I believe I am right in saying that there is only one small factory in France concerned in the manufacture of these goods, so the textile industry generally will be penalized for the benefit of this factory. The present tariff is 90 francs general and 70 francs minimum per 100 kilograms and the new one is to be 105 general and 70 minimum, if imported without felt, and 120 general and 78 minimum if with felt.

I WAS informed recently by Mr. L. Spencer, managing director of the Gorton Rubber Co., Limited, that they had enlarged their factory and taken on many more hands. Now I hear that they have gone a step further and obtained possession of the

ENLARGEMENT OF WORKS.

Droylsden Rubber Works, not far away, so as to have still more accommodation for the increase of their tire trade, though other goods for which the Droylsden works have long been noted will be manufactured as before. Messrs. Charles Macintosh & Co., Limited, have also added considerably to their premises by taking over the adjoining works occupied for so many years by Messrs. Robert Peel & Co., Limited, now a branch of the Bradford Dyers' Association. I understand that the newly acquired premises will be used chiefly for the manufacture of motor tires, a department that has shown a great increase of late. I regret to say that Colonel R. K. Birley, managing director of the firm, has had a prolonged illness and been quite unable to attend to

BISMUTH IN RUBBER GOODS.

business. His long connection with the local Artillery Volunteers, now Territorials, has just ceased by his retirement, this, however, being in the ordinary course of events and not in consequence of his illness.

AFTER the somewhat glowing account I gave about a year ago of the prospects of the Panther rubber scrap machine, as erected

THE PANTHER MACHINE.

at Leyland, I was quite surprised to see it stated recently in a legal case that it had proved an utter failure. It seems that while sound in principle the mechanism proved too complicated, or at any rate inadequate for continuous work, and that firing was also of frequent occurrence. Looking at the number of patents connected with rubber which have been taken out it is remarkable how very few have attained any industrial importance. The majority seem to have only done good service in one direction—that of aiding the authors of books on rubber to find sufficient material to fill their pages.

SOME German firm has gone to the trouble of patenting the use of naphthalene as a component of rubber mixings. Claim is

NAPHTHALENE IN RUBBER GOODS.

made for its use in place of paraffine wax or ceresin where these are commonly employed to diminish porosity; as a reclaiming agent and as a solvent for spreading purposes. I cannot myself see where the advantages of naphthalene come. In solvent naphtha it has always been considered an objectionable impurity, as it leaves a strong smell on the goods, owing to its slow evaporation, and the difference between ordinary and odorless naphtha as sold for proofing purposes, has generally been in the freedom of the latter from naphthalene. As for its replacing paraffine wax I should have thought that its volatility was all against it. Even in its capacity as an insecticide in place of camphor naphthalene has come to be generally regarded as more nasty than useful, and I cannot think that there will be any rush on the part of the rubber trade to avail themselves of the new proposal for its employment.

It has been my custom when leaving the shores of England to write something on my return about rubber works I have seen or heard of. In Ireland, however,

IRELAND.

where I have just spent a fortnight, the rubber works come in the same category as the snakes, so this paragraph will only be a short one. Certainly the mackintosh is largely used by the well-to-do and no doubt there is a demand for rubber goods generally. I did not, however, notice in the towns I visited any shops devoted entirely to the sale of rubber goods. The peasants of the wild west laughed at the idea of mackintoshes and seem to heed nothing of getting wet through. Perhaps their coarse homespun woollens give them an advantage over those who buy Yorkshire shoddy. By the way, I heard of a new use for gutta-percha in a county which has always had a reputation for "rowdiness." A very substantial walking stick, home made, is hollowed out at the end, filled up with molten metal and plugged with gutta-percha. This weapon, I was told, was very handy in scuffles with the police.

INVENTOR SIMPSON'S PERSISTENCY.

A POPULAR periodical prints a story regarding the hardships long endured, rivaling those of Charles Goodyear, by another inventor, "who discovered that gutta-percha was a non-conductor of electricity." At least so the story runs. The inventor referred to is George Simpson, the history of whose insulation patent has been given in THE INDIA RUBBER WORLD (June 1, 1906—page 290.) Some details from the lately published story may be worth repeating, however. It appears that Simpson was a Missouri man. When he made his first application for a patent for insulating electric wires with gutta-percha, shortly after Professor S. F. B. Morse had brought out the telegraph, he borrowed money for the fees from Amos Kendall, a prominent

politician, who was sometime postmaster general and who assisted Morse with his patent.

From the date of Simpson's first application until congress and the courts had established that he was entitled to a patent and his rights under it had been construed, was just 29 years, during which time Simpson derived absolutely no benefit from his invention. The story is that he started out without any money, and rather than beg he worked his way by taking any employment that might be offered him. Walking from St. Louis to Washington he would hoe corn at one place or drive a truck at another and at the national capital is said to have worked as a day laborer on the foundations of a building for the patent office.

A NEW INSULATION FROM MEXICO.

A PLANT said to be abundant in most of the states of Mexico and asserted to yield a wax which has proved adapted for the insulation of electric wires is reported on at length in the *Monterey News*. The plant is known locally as "Candelilla;" it is described botanically as *Pedilanthus pavonius*, and belongs to the *Euphorbiaceæ*. The common name of this plant is based upon the use of its product for making candles. It has been used also as a substitute for beeswax, and is described as having a value for varnish and polishes, giving more luster than the high-priced carnauba wax, from Brazil. The candelilla is said to contain rubber, but not enough to make its extraction profitable but the wax content is high. The plants grow to a height from 3 to 5 feet, as many as 100 stalks springing from one root. The Cia. Candelillera Mexicana S. A., recently organized in Monterey, have patented a process for extracting the candelilla wax, and are reported to be operating a factory, besides which several other factories are at work in the republic, all using this patented process. The people interested in this product seem to think that the success lately experienced in respect of guayule rubber will be duplicated with candelilla.

NEW GUAYULE FACTORY RUNNING.

THE factory of Compañía Guayulera de Torreon, Sociedad Anónima [see THE INDIA RUBBER WORLD, April 1, 1909—page 235], is now in operation. It is located at Puerto del Carmen, between Nadadores and Cuatro Ciénegas, and convenient to the International Mexican railway. The location was decided upon particularly on account of the waterfall there which affords abundant power at a low cost. The company have at their disposal a large amount of guayule shrub. *El Fomento Industrial* (Mexico, April 1) contains a full account of the formal ceremonies at the opening of the factory and of the banquet following, with views of the works and of the waterfall.

COST OF WATERPROOF GOODS IN MEXICO.

IN regard to the rubber clothing trade in Mexico the United States consul at Vera Cruz mentions that the prices charged are such that most people cannot afford to buy. He reports that, largely on account of the import duty—50 cents, gold, per kilogram [=22½ cents per pound]—a pair of overshoes will cost in Vera Cruz about two and one-half times as much as in the United States. A pair of rubber boots, he says, cannot be purchased there for less than \$8. In the line of rubber coats, capes, hat covers, and the like, the same conditions prevail. The consul writes:

"A rubber coat, known in the states as a 'slicker,' and which could be bought for about \$3.50 in any department store, costs here \$8 to \$9. A so-called 'poncho,' worth about \$2 in the states, is proportionately costly. The import duty on this class of goods amounts to \$1.25 United States currency per 2.20 pounds [56½ cents per pound]. Native article in the shape of a 'poncho' is on the market, but the vulcanizing is so poorly done that the goods become worthless within a short time."

What Is Doing With the Tariff at Washington.

THE house of representatives at Washington on April 9 adopted the tariff bill (H. R. 1438), known as the "Payne bills," referred to in THE INDIA RUBBER WORLD April 1, 1909 (page 245), after which it went to the senate. The finance committee of the latter body, having considered the measure, on April 12 reported a substitute bill (S.), through Senator Aldrich, chairman of the committee. This bill is now under discussion, and its passage at an early date is expected, after which a conference committee appointed by the two branches of congress will be in the regular order of procedure, and the bill as finally agreed upon by them will be that to become law.

The changes from the Payne bill embodied in the Aldrich substitute are in the main of minor importance, through more changes are made in respect of india-rubber than were involved in the Payne bill as compared with the existing law. The provisions of bill now before the senate, however, is already suggested, cannot be regarded as foreshadowing the final shape which tariff legislation will take.

The Payne bill left unchanged the rate of duty on manufactures of india-rubber (30 per cent. *ad valorem*), except that rubber sponges were specified separately at 40 per cent., and the old rate on manufactures of gutta-percha (35 per cent. *ad valorem*) was also unchanged. In the senate bill rubber manufactures are raised to 35 per cent., without rubber sponges being mentioned. Rubber tires, however, are specified separately, for the first time, and at a higher rate. The following paragraphs show the successive provisions covering the imposition of duties on imports of automobiles and parts:

In the law of 1897:

193. Articles or wares not specially provided for in this act, composed wholly or in part of iron, steel, - - - and whether partly or wholly manufactured, 45 per cent. *ad valorem*.

In the Payne bill, as proposed and adopted:

140. Automobiles and parts thereof, bicycles and parts thereof and motor cycles and parts thereof, 45 per cent. *ad valorem*.

In the substitute proposed in the senate:

140. Automobiles, bicycles and motor cycles and parts of any of the foregoing, including TIRES, axles and ball bearings, 45 per cent. *ad valorem*.

Imports of insulated wire are not specifically provided for under the existing law, but would be dutiable, under a general provision relating to manufactures of copper, at 45 per cent. This was retained in the Payne bill, but in the Aldrich substitute a new provision is included:

134. - - - telegraph, telephone and other wires and cables composed of metal and rubber, or of metal, rubber and other materials, 45 per cent. *ad valorem*.

The india-rubber trade would be affected by any changes in the rates on elastic webbings, waterproof clothing, and fabrics for waterproofing, but on account of the rather intricate form of the various schedules it may be just as well to defer treatment of those until the new measure becomes a law in its completed form. It may be added, however, that the Aldrich bill raises the duty on card clothing composed in part of rubber.

The free list, in the latest form suggested, contains this item:

587. India-rubber, crude, and milk of, and scrap and refuse india-rubber, fit only for remanufacture.

This reference to scrap, rubber, being without any attempt at description, is much simpler than the present specification, under which many disputes have arisen between importers and the customs authorities.

RUBBER SPONGES AND THE TARIFF.

DURING the recent "hearings" before the committee which formulated the Payne tariff bill, statements were made regarding the higher cost of labor employed in manufacturing rubber sponges

in the United States as compared with the European product, as a reason for demanding a higher rate on such goods than the general rate of 30 per cent. on rubber manufactures. One demand was for 50 per cent. *ad valorem*.

In one of the newspapers the representatives of European rubber sponge manufacturer claiming to sell nine-tenths of the rubber sponges imported into this country states that since 1903, when no rubber sponges of domestic manufacture were sold, their trade has decreased in each successive year as domestic competitors have been able to put on the market an article which is a substitute for the foreign product. The importer referred to intimates that nine-tenths of the rubber sponges made in the United States are the product of a single factory and it is interesting in this connection to note that American rubber sponges are being advertised extensively in Germany, in which country, by the way, such goods were manufactured at an earlier date than in the United States.

NO TARIFF YET ON WASHED RUBBER.

AN importation made by the Michelin Tire Co. at New York was assessed for duty at 30 per cent. *ad valorem*, the regular rate for manufactures of india-rubber. Protest being made, the United States general appraisers decided:

"It appears that the rubber involved has been washed and some of the impurities removed therefrom before importation, but the evidence satisfactorily establishes that such washing and consequent elimination of impurities had not changed the condition of the rubber from the crude state. It is not in any sense a manufacture of rubber, nor has it been prepared for any special use, and we therefore sustain the claim for free entry under paragraph 579" [of the Tariff act of 1897].

The date of these proceedings is not published by the government, but it is inferred that the action of the port collector against which Messrs. Michelin protested was prior to THE INDIA RUBBER WORLD's recent article [January 1, 1909—page 121] on the subject of the tariff as related to crude rubber.

RECLAIMED RUBBER ALSO FREE.

ANOTHER protest made recently by the Michelin Tire Co. related to an importation of rubber which, it appears, the collector at New York assessed for duty as "manufactures of india-rubber." The board of general appraisers, to whom appeal was made, decided that, whereas the merchandise in question had at one time been in the form of manufactured articles, "it had again been reduced to the crude state, and as it is the condition of merchandise as imported which must control in settling the classification, and thus the claim for free entry of this rubber must be sustained." Elsewhere in the decision this rubber is described as having been "reclaimed or recovered from old scrap, boots and shoes and automobile tires."

* * *

THE government announces the allowance of a drawback on the exportation of rubberized leather manufactured by the Vigori Leather Co. (New York), from imported leather, equal in amount to the duty paid, less 1 per cent.

AMONG the amendments to the Mexican tariff schedule which became effective on February 15 is the inclusion of india-rubber tires for vehicles, with or without leather parts, as a separate item, the rate being .66 peso [= 33 cents, gold] per kilogram, net weight. The rate on articles of india-rubber, gutta-percha and celluloid not specifically mentioned remains unchanged—.45 peso [22½ cents] per kilogram, gross weight.

Rubber Goods Manufacturing Co.'s Annual.

THE tenth annual meeting of the shareholders of the Rubber Goods Manufacturing Co., a corporation of New Jersey, was held at the registered offices of the company in Jersey City, on Thursday, April 8. The annual reports of the officers of the company were read and approved, and are given here in full form.

PRESIDENT WATSON'S REPORT.

TO THE STOCKHOLDERS OF THE RUBBER GOODS MANUFACTURING Co.: In this, the tenth, annual report of your company, it is our purpose to furnish to our stockholders information somewhat more full than in former years, giving in place of the usual statements, a consolidated statement of assets and liabilities of the Rubber Goods Manufacturing Co. and its subsidiary companies, showing their condition as of December 31, 1908, and also a consolidated income statement of the company and its subsidiary companies showing the operations to December 31, 1908.

For the year 1908, the total sales as compared with 1907,

showed a decrease of less than 14 per cent. The earnings were \$2,203,519.19 as compared with \$2,371,827.44 for 1907, a decrease of about 7.1 per cent. Thus it appears that while the volume of the business of your company has been affected during the year by general conditions existing throughout the country, the profits have not been correspondingly decreased.

The larger part of the decrease in sales in 1908 was due to a falling off in the railroad demand for air-brake hose, steam hose and other material, a demand which recently has decidedly improved.

The automobile tire business increased, the sales having been the largest of any in the history of the company, and a still larger volume for the year 1909 is indicated by the present condition of orders. Owing to the greater demand for our tires, it has been necessary to enlarge the capacity of the plants where the "Hartford," "Morgan & Wright" and "G & J" tires are manufactured, and we are confident that the tires manufactured by these companies continue to be the best on the market.

All of the plants of the company have been maintained in excellent condition, and in many instances extensive improvements and additions have been made.

The selling organization of the United States Rubber Co. has been utilized to a greater extent than previously, and the volume of goods distributed through this channel has largely increased, with indications that in the future the company will derive greater benefits from this source.

The regular quarterly dividends of $1\frac{3}{4}$ per cent. have been paid on the preferred stock and four dividends of 1 per cent. each, have, during the year, been paid on the common stock.

It is my sad duty to report the loss sustained by your company in the death of our late president, Charles H. Dale, which occurred on July 18, 1908. Mr. Dale had for many years been a conspicuous figure in the rubber goods industry, having achieved great success in the organization and management of The Peerless Rubber Manufacturing Co., one of the subsidiary companies of the Rubber Goods Manufacturing Co. Mr. Dale was one of the original incorporators of your company, and on April 14, 1903, was elected its president, holding the office until the time of his death. Respectfully submitted,

JOHN J. WATSON, JR., President.

Jersey City, New Jersey, April 8, 1909.

The annual election resulted in the board of directors being continued without change, except that Samuel Norris succeeded the late Charles H. Dale. On April 15 the resignation of Mr. Norris was accepted, and Homer E. Sawyer, general manager of the United States Rubber Co., elected in his stead. The board now stands: Anthony N. Brady, Ernest Hopkinson, Lester Leland, Samuel P. Colt, Charles A. Hunter, Homer E. Sawyer, Frank W. Eddy, Arthur L. Kelley, John J. Watson, Jr.

At a meeting of the board, held on April 8, at No. 42 Broadway, New York, the following were reelected officers of the company: John J. Watson, Jr., president; Lester Leland and Charles A. Hunter, vice-presidents; Thomas H. Lee, treasurer; Samuel Norris, secretary, and John D. Carberry, assistant treasurer and assistant secretary.

The financial reports were audited by Henry T. Bragg, C. P. A.

ECUADOR.—The United States consul general at Guayaquil reports that the amount of rubber exported from Ecuador in 1907 was 1,031,510 pounds, of which 816,684 pounds was sent to the United States.

TREASURER'S REPORT.

CONSOLIDATED GENERAL BALANCE SHEET DECEMBER 31, 1908.

ASSETS.

Property, plants and investments.....	\$23,505,177.76	
Patents and trade marks (less charged off for depreciation)	2,369,787.58	
Inventories, manufactured goods and materials	\$6,996,189.86	
Cash	907,365.39	
Bills and accounts receivable....	3,322,828.82	11,226,384.07
Securities owned.....	\$5,137.00	
Stock owned in Gen'l Rubber Co.	1,000,000.00	1,005,137.00
Total assets.....	\$38,106,486.41	

LIABILITIES.

Capital stock, preferred	\$10,351,400.00	
Capital stock, common.....	16,941,700.00	\$27,293,100.00
Bonds of Mechanical Rubber Co. and New York Belting and Packing Co., (less amount owned)	939,510.00	
Bills and accounts payable.....	2,690,724.61	
Sinking fund for bonds.....	515,038.47	
Fixed surpluses (subsidiary companies).....	2,499,218.65	
Surplus	4,168,894.68	
Total liabilities.....	\$38,106,486.41	

Of the above "surplus" minority stockholders in two companies would be entitled to \$109,953.68.

The contingent liability for certain guarantees, which are offset by corresponding contingent assets, is not included.

CONSOLIDATED INCOME STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1908.

Net sales for year 1908.....	\$18,491,987.90	
Earnings subsidiary companies for year ending December 31, 1908.....	\$2,203,519.19	
Less:		
Expenses, home office (9 months)...	\$51,175.99	
Maintenance and repairs.....	104,335.37	
Sinking fund for bonds.....	63,424.66	\$218,936.02
Net profits.....	\$1,984,583.17	
Dividends	1,051,699.50	
Surplus for period.....	\$932,883.67	
Surplus and working capital March 31, 1908..	4,446,211.35	
	\$5,379,095.02	
Amounts charged off for depreciation of plants, patents, etc.....	1,210,200.34	
Surplus and working capital December 31, 1908	\$4,168,894.68	

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED MARCH 2, 1909.

- N**O. 913,720. Apparatus for vulcanizing. J. R. Gammeter, Akron, Ohio, assignor to The B. F. Goodrich Co.
 913,819. Resilient wheel. R. Gaignard, Paris, France.
 913,850. Air tube of tires. J. Rees, Cardiff, England.
 913,897. Tire tool. W. James, Birkenhead, England.
 913,917. Belt for conveyers. T. Robins, New York city.
 913,950. Coupling. [For airbrake hose.] E. E. Gold, New York city.
 913,962. Elastic grip band for packages. W. Liddy, Brooklyn, N. Y.
 914,036. Cushion tire for vehicle wheels. B. F. Fry, La Crosse, Wis.
 914,141. Protective device for rubber tires. H. W. Harding, New York city.
 914,150. Apparatus for treating rubber. [Latex is placed within a revolving drum, into which smoke is introduced.] Enrique Molina, Lima, Peru.

Design Patent.

- 39,802. Rubber overshoe. F. C. Hood, Boston, assignor to Hood Rubber Co.

Trade Marks.

- 39,592. The Vulcanized Rubber Co., New York city. The word *Conqueror*. For hard rubber combs.
 39,624. Mulconroy Co., Philadelphia. The words *7 League*. For rubber footwear.
 39,700. The American Mfg. Co., Charleston, W. Va. The word *Eagle*. For packing for pipe joints.

ISSUED MARCH 9, 1909.

- 914,381. Locking ring for wheel rims. R. S. Bryant, Columbus, Ohio, assignor to The Bryant Steel Wheel and Rim Co.
 914,477. Rubber shoe attachment. H. J. Bracken and W. C. Ward, Norwalk, Conn.
 914,551. Wheel tire. [Relates to a rim for pneumatics.] J. Christy, Akron, Ohio.
 914,559. Vehicle tire. W. D. McNaull, Toledo, Ohio.
 914,634. Belt coupling. J. Brenner, assignor of one-half to J. W. Clark, both of Philadelphia.
 914,659. Vehicle wheel. [Elastic-composite—not pneumatic.] J. E. Harrod, Indianapolis, Ind.
 914,674. Internal cushion for boots and shoes. J. Ramsay, Sydney, New South Wales.
 914,710. Vehicle wheel. [Pneumatic tire and special rim.] P. Ebner, Columbus, Ohio.
 914,712. Anti-skidding device for wheels. E. C. Gardner, Montreal.
 914,810. Removable rubber heel. J. H. Dempsey, Cleveland, Ohio.
 914,844. Wheel. [Special construction, from the hub out; rubber tire.] J. C. Jackson, Xenia, Ohio.
 914,905. Vulcanizer. [The drawing in the printed specification shows the device adapted for pneumatic tires.] J. K. Williams, Akron, Ohio, assignor of one-half to The Williams Foundry and Machine Co.

ISSUED MARCH 16, 1909.

- 915,069. Tire case. F. E. Bowers, New Haven, Conn.
 915,265. Spare tire case. *Same*.
 915,304. Vehicle wheel. [With demountable rim for rubber tires.] T. Midgley, Columbus, Ohio.
 915,457. Swimming shoe. L. Marotte, Baker City, Ore.
 915,585. Vehicle wheel. [With solid rubber tire and springs for adding resiliency.] C. W. French, Kingfield, Me.
 915,713. Anti skidding tire attachment for wheels. H. H. Frey, Boston, assignor to Iver-Johnson Sporting Goods Co.

Trade Marks.

- 33,169. Feodor Burgmann, Dresden, Germany. The words *Burgmann's Packungen* (in German text). For fibrous packings.
 78,824. Consolidated Packing and Supply Co., New York city. The word *Consolco*. For packings, hose and belting.

ISSUED MARCH 23, 1909.

- 915,839. Attachment for tire treads. [Consists of metallic links.] F. A. Fox, assignor to Fox Metallic Tire Belt Co., both of New York city.
 915,840. Tire tread attachment. *Same*.
 915,841. Attachment for tire treads. *Same*.
 915,842. Attachment for tire treads. *Same*.
 915,843. Anti-skid device for tires. *Same*.
 915,884. Resilient wheel. F. J. Pothe, Hamburg, Germany.
 915,918. Patch for vehicle tires. O. W. Wiles, Oakland, Cal.
 915,954. Pneumatic tire mounting. C. G. Hawley and E. K. Baker, Chicago.
 915,985. Hose coupling. S. Medovarski, Cleveland, Ohio.
 916,076. Hose coupling. E. W. Whitmore, Lynn, Mass.
 916,122. Vehicle wheel [of special construction, with rubber tire]. W. J. Doyle, Evanston, Ill., assignor of one-half to J. M. Collins, Chicago.
 916,136. High pressure hose. [For fire service.] T. B. Ford, New York city.
 916,211. Bicycle pump. C. E. Speck and F. W. Henschen, St. Marys, Ohio.
 916,264. Tire. [Solid rubber, with springs underneath.] R. R. Brown, Livermore, Cal.
 916,350. Heel cushion for boots or shoes. A. A. Meyer, Quincy, Mass.

Trade Mark.

- 26,658. E. C. Marks, Chicago. The word *Perfection*. For combination metal and rubber bottle stoppers.

ISSUED MARCH 30, 1909.

- 916,440. Resilient tire. J. Guetton, La-Tour-de-Millery, France.
 916,678. Automobile tire. B. R. G. Darré, New York city.
 916,750. Horseshoe pad. M. M. Mills, New York city.
 916,784. Vehicle tire. [Pneumatic, with means inside for supporting the wheel in case of puncture.] B. Ross, Buffalo, N. Y.
 916,805. Gasket or packing. C. H. Van Nostrand, Orange, N. J.
 916,858. Device for coupling, uncoupling, and manipulating air brake hose. C. Geisking, Harrisburg, Pa.

Trade Marks.

- 38,128. The Arlington Co., New York city. The word *Challenge*. For rubber collars and cuffs.
 40,126. The Manhattan Supply Co., New York city. The word *Mansco*. For asbestos packing.
 40,662. The Peerless Rubber Mfg. Co., New York city. The word *Acme*. For valves.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the application, which in the case of these listed below was in 1907.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MARCH 10, 1909.]

- 24,210 (1907). Tire having an air tube and a tread of unconnected tread blocks of wood covered with rubber. R. Haddan, London.
 24,271 (1907). Circumferentially divided rim for tires, held together by a special clip. D. A. Prust, London.
 *24,487 (1907). Tire cover fabric. J. F. Palmer, Chicago, Illinois.
 24,719 (1907). Tire cover made as thin as possible, and of an even thickness, and provided with a stitched-on foundation tread, to which a renewable tread is riveted or cemented. F. F. Kerr, Broad Green, Liverpool.
 24,582 (1907). Elastic tire formed of a series of india-rubber studs, held in the rim by embedded springs. R. Basch and S. Basch, London.
 24,594 (1907). Tire inflating pump driven by the motor car. W. H. Newman, Totteridge Park, Herts.
 24,700 (1907). Pessary. L. Willmott, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MARCH 17, 1909.]

- 24,849 (1907). Mud guard for motor car wheels. J. Varet and C. Finaly, London.
 24,868 (1907). Security bolts for tire rims with detachable flanges. C. B. Cave-Browne-Cave, London.
 24,895 (1907). Side slipping device. S. W. Newcomb, London.
 24,938 (1907). Means of holding detachable rims to the permanent rim of vehicle wheels. H. W. Morley and W. Jackson, Bradford.
 25,018 (1907). Side slipping device for vehicle wheels, consisting of a series of spikes. J. H. Hall, Sheffield.
 25,068 (1907). Wheel having a solid rubber tread and provided with additional resiliency by means of a felloe being made hollow so as to serve as an air chamber. B. A. Godek, Paris, France.
 25,071 (1907). Plastic composition for use as a rubber substitute for a tire filler; consists of glycerine, water, gelatine, and a mixture of formaldehyde and talc, to which potassium chromate may also be added. M. Bartels, Wiesbaden, Germany.
 *25,085 (1907). Resilient wheel provided with a hollow rubber tire and a hollow felloe which rests upon a pneumatic tube. C. G. Lotave, Denver, Colorado.
 25,091 (1907). Method of and apparatus for separating vulcanized rubber from fibrous and other materials. W. Grummel, Behrenbostel, Germany.
 25,098 (1907). Heel protectors. W. White, North Fitzroy, Victoria.
 25,149 (1907). Revolvable heel protector. A. Haste, Bradford.
 25,184 (1907). Flange for motor car wheels adapted to carry a spare wheel. T. M. Davies, and Stepany Spare Motor Wheel, Ltd., Llanelli.
 25,291 (1907). Wheel designed to enable spokes to be removed without interference with the felloe where the tire is permanently fixed to the rim. E. Shearing and J. Liversidge & Son, London.
 25,392 (1907). Rubber insole to render shoes waterproof. H. A. Silver and H. C. C. Silver, London.
 25,321 (1907). Tire cover with nonskid studs. J. O'Brien, Wimbledon, Surrey.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MARCH 24, 1909.]

- 25,481 (1907). A resilient wheel having a solid rubber tread and inside of which is a pneumatic feature. J. Donkin, Bournemouth.
 25,541 (1907). Resilient ball for filling tires and means for forcing the same through the valve device. F. Fuchs, Bad Landeck, Silesia.
 *25,621 (1907). Machine for winding insulated thread to form tire casings. E. D. C. Bayne and L. A. Subers, Cleveland, Ohio.
 25,635 (1907). Wheel with flexible tread band resting upon a flanged felloe and having a leather cover. S. Marvasi, Naples, Italy.

- 25,578 (1907). Tire rim with its side detachable and held in place by a split ring. W. L. Lister, Manchester.
- 25,762 (1907). Tire prevented from puncturing by means of a filling compound placed between the air tube and cover. W. Hesketh-Bamford, Greenhithe, Kent.
- 25,739 (1907). Wheel with solid rubber treads, and inner and outer rims between which are helical springs. R. Allan and G. Knowling, Brentford.
- 25,816 (1907). Puncture preventing lining for tire covers consisting of paper strips with interposed layers of rubber. P. L. V. Gaultier, Versailles, France.
- 25,986 (1907). Diaphragm for tire tubes on both sides of which communication is established with the air valve; in case of puncture of the tread the diaphragm is made to occupy the whole of the air space. A. Garneau, Paris, France.
- 26,020 (1907). Pneumatic tire provided with an internal cushion adapted to take the weight of the vehicle on deflation of the tire. P. E. Doolittle, Toronto, Ontario.
- 26,044 (1907). Tires in which volute springs support flexible tread bands. H. Gottwald and G. Haubold, Berlin.
- 26,067 (1907). Non-skid device for tires. G. T. Turner, London.
- 26,072 (1907). Pneumatic cover for bicycle saddles. C. H. Proctor, Mexboro, Yorkshire.
- 26,077 (1907). Non-skid device for tires, comprising leather gaiters provided with steel caulks. E. C. R. Marks, London. (Neckarsulmer Fahrradwerke A.-G., Neckarsulm, Germany.)
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MARCH 31, 1909.]
- 26,097 (1907). Pneumatic tire with special tread and mold for forming the same. H. Walker and E. Walker, Bradford.
- 26,287 (1907). Cushion tire for vehicles. T. Lawson, Newton, Carlisle.
- 26,273 (1907). Method of securing the detachable flange of a tire rim. E. Weiler, Berlin.
- 26,377 (1907). Boots rendered waterproof by means of an inner backing for the soles of rubbered canvas. C. Furness, Cowes.
- 26,374 (1907). Tire inflating pump to be attached to a motor car. A. J. E. Daffrin, Dieppe, France.
- 26,432 (1907). India-rubber substitute. L. Roland, Paris, France.
- 26,446 (1907). India-rubber substitute. To a mixture of glycerine, gelatine, sugar and chromic acid or chromates is added enough rubber solution to form one-tenth of the mass. Linseed or rape oil may be added. *Same.*
- 26,556 (1907). Tire tubes made in one straight length with inclined ends. H. Rodgers, Bloemfontein, South Africa.
- 26,627 (1907). Vulcanizer for long strips, belts, rods or the like, of india-rubber or gutta-percha. W. D. Gratana, Rijswijk, Holland.
- 26,629 (1907). Pneumatic tire having chains in circumferential grooves in the tread. S. G. Anderson, Sydney, Australia.
- 26,749 (1907). Detachable rim for pneumatic tires. R. Kronenberg, Ohligs, Germany.
- 26,750 (1907). Detachable rim for pneumatic tires. *Same.*

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

- 395,043 (Aug. 19, 1908). E. Cleathers. Air tubes for pneumatic tires.
- 395,035 (Dec. 16, 1907). E. Decauville. Press for tire and tire tube repairs.
- 395,198 (Oct. 13). Hookham. Protective tire.
- 395,216 (Dec. 20, 1907). C. E. Defer. Elastic tire.
- 395,217 (Dec. 20). P. Robin. Protective tire.
- 395,101 (Oct. 9, 1908). M. Wilderman. Process for the manufacture of hard rubber capable of resisting the action of gas.
- 395,181 (Oct. 12). T. Cockerill. Improvement in the treatment of rubber.
- 395,214 (Dec. 20, 1907). Wallace and Reynand. Process for the manufacture of elastic and plastic substances.
- 395,215 (Dec. 20). *Same.* Process for the manufacture of substances analogous to india-rubber and gutta-percha.
- 395,286 (Oct. 15, 1908). Michelin et Cie. Light metallic wheel with multiple pneumatic tires.
- 395,389 (Oct. 16). A. W. Torkington. Elastic tire.
- 395,394 (Dec. 24, 1907). L. Le Boeuf. Automatic wheel.
- 395,505 (Oct. 20, 1908). F. Toukien. Composition for replacing rubber, and the process for its preparation.
- 395,556 (Dec. 31, 1907). L. Absire. Protective rivets for tire treads.
- 395,607 (Oct. 23, 1908). Hébrard. Protective tire treads.
- 395,636 (Oct. 24). R. Klein. Pneumatic wheel.
- 395,668 (Oct. 26). A. Weit et Cie. Extensile mill for the manufacture of tires and tubes.
- 395,812 (Jan. 7). M. Hermander. Machine for the manufacture of pneumatic tires.
- 395,829 (Oct. 30). L. Liais. Pneumatic tires.
- 395,904 (Nov. 3). Keller, junior. Valve for tires.
- 395,918 (Jan. 7). C. Gauthier. Tread for pneumatic tires.
- 395,998 (Nov. 6). Basch. Vehicle tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villier, Paris, at 50 cents each, postpaid.]

"AIDS TO SHIPPERS" (copyright, 1908), received with the compliments of Messrs. Oelrichs & Co., of New York, is designed to be of value to all who are interested in the export and import trade. There is a variety of information, including tables of American money compared with foreign, and also comparative tables of weights and measures, equally useful to business men whether in foreign trade or not.



PONCHO WORN IN COLOMBIA.

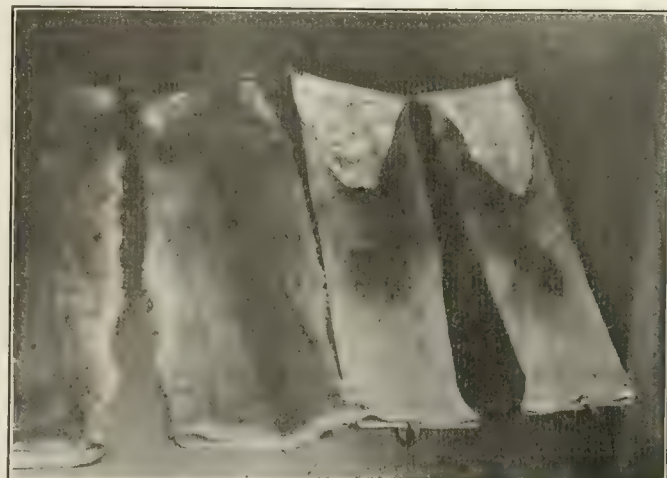
RUBBER CLOTHING IN COLOMBIA.

THE market for waterproof garments in Colombia is reported good by the United States consul general at Bogotá, on account of the fact that so much travel must be done on horseback and heavy tropical rains are so frequent. The importation of ponchos at Barranquilla alone is about 16,500 pounds in a year, mostly from Great Britain.

Two illustrations herewith, from photographs received recently from Colombia, will give an idea of some of the waterproof goods for which a demand exists. The first shows a poncho, worn by a man on horseback, which is quite like the model used in the American cavalry; "light weights" are preferred.

The second picture shows a garment which the natives wear to protect their legs from cold and rain while riding—long, loose, over trousers made of leather of skins, or of heavy "mackintosh stuff." These "zamarres" are cut very large and of nearly even width in the legs, the latter being hung independent of each other on a belt. They are sufficiently long and large enough to cover and protect the feet of the riders when mounted.

The following firms in Bogotá are mentioned as merchants who handle waterproof goods more or less: Luis Vargas & Co., Abello Hermanos, Restrepo Hermanos, Echeverri Hermanos, Quijano Wallis & Co., William Droesch, R. Cueto & Ca.



WATERPROOF GARMENTS IN COLOMBIA.

The Late Edmund D. Cook.

ALL Trenton felt a shock on hearing the news, on the morning of April 10, of the death of Edmund D. Cook, which was caused by his being thrown from a spirited horse he was riding in Calwalader Park. The estimation in which he was held in the city of his residence was evinced not only by the closing of the important manufacturing establishments in which he was a director, but in the half-masting of the flags on the city hall and on many other buildings, the calling of a special meeting of the Chamber of Commerce and a meeting of the leaders in the rubber trade in which he figured to so important an extent.

Edward Dunham Cook was born August 12, 1868, at Trenton, but most of his boyhood was spent in Princess Anne, Maryland, where he received his early education. Mr. Cook's business career began at Trenton in the office of the old pottery concern of Alpaugh & Magowan. Soon afterward he became identified with what was then the Empire Rubber Co., of Trenton, one of the incorporators of which was his brother, George R. Cook. Later he assisted his brother in forming the Trenton Oilcloth and Linoleum Co., of which he was treasurer at the time of his death. At the end of 1897 Mr. Cook assisted in reorganizing a rubber business in Trenton which became incorporated under the name Hamilton Rubber Manufacturing Co., and he thereafter filled the office of president. In 1902, the Cook interests having withdrawn from the Empire Rubber Co., already mentioned, a new company was formed, now called the Acme Rubber Manufacturing Company, in which the subject of this sketch has been always an active director, his brother being president. Mr. Cook was also president of the Combination Rubber Manufacturing Co. (Bloomfield, N. J.), which in 1906 came under the control of the Hamilton company.

In addition to the business connections mentioned already, Mr. Cook filled the office of treasurer of the Standard Inlaid Manufacturing Co. He was also second vice president of the Mercer Trust Co. and a director in the Trenton Trust and Safe Deposit Co. and the Trenton Hall and Building Association. He thus sustained an important relation not only to the india-rubber industry but to financial affairs generally in his city and state. The most important position of all to which he was called was the presidency of the Trenton Chamber of Commerce, which he accepted under protest, on the ground that he might not be able to devote to it the necessary amount of attention, but once having entered upon the duties of the office no one could have been more assiduous than he in fostering the interests of the organization. Indeed, all who came into contact with him in this position testify to the ability which he displayed in it.

But Mr. Cook had time for affairs other than those of business. He was, for instance, a trustee of the Mercer Hospital and a director in the Young Men's Christian Association. The social side of his life showed no less activity than was illustrated in his business career. He was a member of numerous clubs—Trenton Country, Union League of Philadelphia, Meadowbrook Gun and so on and of Loyal Lodge No. 181, Free and Accepted

Masons. He was accustomed to go South every year on a hunting trip, and meanwhile he found much pleasure in horseback riding, the recreation which resulted so tragically.

Mr. Cook's domestic life has been described as ideal. He married Miss Margaret Parsons and the home which they builded was the scene of a delightful hospitality. Four children survive. Mr. Cook was the son of Mr. and Mrs. Edmund Burroughs Cook, who still live in Trenton. He is survived also by two brothers and a sister, Charles Howell Cook, president of the Cook Pottery Co.; George R. Cook, president of The Acme Rubber Manufacturing Co., and Mrs. J. Russell Beekman.

The funeral of Mr. Cook was well in keeping with his simple, unostentatious life. While the home of the deceased was thronged with probably the largest representation of prominent men of Trenton that ever gathered to do honor to the dead, the obsequies were of the simplest character, and every detail of the

arrangements was devoid of display. Services were conducted by the Rev. Hamilton Schuyler, of Trinity Church (Episcopal). The honorary pall bearers were men of prominence in the social, business and professional circles of Trenton. The floral tributes surpassed in beauty and number any that had before been seen at a funeral in that city.

Edmund D. Cook was one of the most capable of the younger men in the rubber trade. Although by temperament conservative and absolutely free from ostentation and advertisement of self, he was quietly aggressive, of remarkable executive ability and broadly capable as the creator and sustainer of great enterprises. Few men of forty have so quietly and so successfully built up and administered so many companies and done it with so little apparent effort. With all of his attention to the details in the rubber mills, the great linoleum plants, the banking and other enterprises in which he was a vital force, he had plenty of time for home life, and was a welcome and interested member of the club and social life in the city that now mourns his loss. The rubber trade of Trenton, and indeed of the country, have

lost one whom, had a brief score of years more been his allotment, would have loomed large as one of the leaders in it, and one who could have been relied upon always to follow a policy of sanity, justice and probity.

TRIBUTE OF THE TRENTON RUBBER TRADE.

A meeting of the rubber manufacturers of Trenton was held at noon, Tuesday, April 20, at the Chamber of Commerce building, as a formal mark of respect on account of the tragic death of Mr. E. D. Cook, who until the morning of his death was so actively engaged in the welfare of the manufacturing, banking and business interests of Trenton, and prominent in the work of civic improvement, to which latter effort he has at great self-sacrifice devoted himself so recently. The following companies were represented:

Empire Rubber Manufacturing Co.	Gen. C. Edward Murray.
Cresecent Belting and Packing Co.	
Whitehead Brothers	Mr. Samuel Cadawalader.
Joseph Stokes Rubber Co.	Mr. H. L. Boyer.
Trenton Rubber Manufacturing Co.	Mr. Fred S. Wilson.
Home Rubber Co.	Mr. Charles E. Stokes.
Luzerne Rubber Co.	Mr. Bruce Bedford.



EDMUND DUNHAM COOK.

Essex Rubber Co.	Mr. C. H. Oakley.
Mercer Rubber Co.	Mr. J. E. Clancy.
Acme Rubber Manufacturing Co.	Mr. J. H. Lambert.
Hamilton Rubber Manufacturing Co.	Mr. W. S. Blodgett.
United and Globe Rubber Mfg. Cos.	Mr. W. H. Linburg.
Woven Steel Hose and Rubber Co.	Mr. John S. Broughton.
	Mr. J. Russell Kelse.

Mr. W. H. Linburg presided, with Mr. C. H. Oakley as secretary. Mr. Bruce Bedford was appointed as chairman of a committee to provide a suitable floral tribute to the memory of Mr. Cook. It was unanimously resolved that the rubber mills of Trenton close at noon on the day of the funeral, Thursday, April 22.

A committee composed of Mr. W. W. Blodgett and Mr. C. H. Oakley was instructed to provide for the proper engrossment of a set of resolutions expressing the keen sense of regret on the part of the rubber manufacturers of Trenton at the loss of their fellow manufacturer, and conveying to his family their tribute of sympathy, one copy to be sent to the family and one copy to be tendered the Chamber of Commerce.

It was resolved that a copy of the minutes of the meeting be mailed to each rubber manufacturer.

THE OBITUARY RECORD.

ZIBA C. KEITH.

ZIBA CARY KEITH, who died at his home in Brockton, Massachusetts, on April 5, was a leading citizen of that place. He was the first mayor of Brockton, which position he filled for several terms, rendering the city a notable service. At various times he served in both branches of the Massachusetts legislature, and in several municipal offices other than the mayoralty. He was a director and treasurer for more than a dozen years of the Monarch Rubber Co., organized by John Thomas Robinson in 1892 to conduct a proofing business, and incorporated in 1893. Mr. Keith was also a director in several banks and other corporations. He was born July 13, 1842, and married in 1865 to Miss Jackson, who survives with one son.

JAMES CONNOLLY.

THE death of **JAMES CONNOLLY**, manager of the druggists' sundries department of the Mechanical Rubber Co., occurred on March 30, at his home in East Cleveland, Ohio. Mr. Connolly



JAMES CONNOLLY.

was a young man, not yet 37, but had been identified with the rubber business for many years, having started as office boy with the Cleveland factory in 1885. By great industry and strict

attention to duty he succeeded in working his way to the front, as well as into the hearts and confidence of all with whom he came in contact. Stricken by tuberculosis four years ago, he lived for a time in Arizona in the hope of recovering his health. He was laid away to rest in beautiful Lakeview cemetery on April 1, mourned by his associates, and followed to the grave by a large number of employees of the factory. A wife and two children survive him.

JACOB NEUMAN.

JACOB NEUMAN, who died at his home in Cleveland, Ohio, on March 27, in his forty-third year, was vice-president of the Stein Double Cushion Tire Co., of Akron, of which he was one of the founders in 1901. He had filled the same office in the company since the beginning, just as Charles K. Sunshine has been president continuously. For several years Mr. Neuman filled also the office of general manager of the Stein company, and spent most of his time in Akron. The funeral services at Cleveland on March 29 were attended by a delegation of the Akron office staff. A brother of the deceased, M. M. Neuman, is secretary and treasurer of the Stein company.

NO GUAYULE COMBINATION.

TO THE EDITOR OF THE INDIA RUBBER WORLD: On the 10th of this month a report was published in a number of newspapers in this city and abroad, purporting to come from Mexico City, to the effect that Messrs. Madero & Co. had sold their guayule interests to the Continental Rubber Co. for \$15,000,000. I was quite sure that there was no truth in the report, but telegraphed immediately to Mr. Ernesto Madero, who replied at once that it was a pure fabrication, and also telegraphed to the Associated Press here asking them to make a denial. There have never been any negotiations for the sale of Messrs. Madero's guayule interests, and there is not the slightest reason to think that such a sale will ever take place. As I have had numerous inquiries from rubber factories in this country inquiring about the correctness of this report, I would thank you to inform the trade through your paper that there is no truth in it.

ED. MAURER.

[Representative of Madero & Co., Mexico.]

New York, April 19, 1909.

[Inquiry at the offices of the Continental Rubber Co., in New York, brought a firm denial of any knowledge of a combination of interests of that company with any other.]

THE AGE OF EXPOSITIONS.

IT is plain from reading the *Journal des Expositions* that the era of national and international expositions is not over. Founded 67 years ago, this journal continues to chronicle existing and to advise in regard to prospective expositions, the sum total of which constitutes one of the great educational agencies of modern times. A recent number of the *Journal*, published now in Brussels, has articles on no fewer than 25 expositions now being organized, in 14 different countries, in North and South America, Europe, and Asia. The Brussels Exposition of 1910 is, of course, treated prominently. Not least in importance of the enterprises under way is the Alaska-Yukon-Pacific Exposition, to be held at Seattle, United States, from June to October, this year. Damascus is organizing an exposition; so is Quito, and Brazil, Norway, and Russia are on the list. While it does not appear that especial attention is to be given to rubber at any of the prospective expositions, except perhaps that at Brussels, rubber is certain to figure largely, in an auxiliary sense, at most of them. This will be true, for example, of the international exposition of aeronautics at Frankfort o/M. this year.

New Rubber Goods in the Market.

A NEW process in the construction of hot water bottles and numerous other articles of soft rubber involves their formation over a mandrel or core made of material fusible over a low temperature. Two methods of constructing hollow rubber goods having a fixed mechanical strength have been available hitherto: (1) Building them up from sheet rubber and curing in heat, without pressure, the joints consisting of a cemented lap; and (2) leaving an opening or making an incision large enough to permit the removal of the solid and inflexible core or mandrel. A disadvantage inherent in the finish method has been that the cement might weaken under usage, and in the second method that where the opening occurred a weak spot might develop. In the new process the core or mandrel fuses at the same temperature at

sisting qualities in general are stated to be largely increased. This feature is covered by patents.

A RUBBER POLICE CLUB.

ONE of the newest applications of rubber is in a policeman's baton. The outside is soft rubber, of course, and the baton is therefore flexible. It is loaded with sand and shot, to add to the force of a blow. This is the idea of J. T. Gannon, a member of the police force of Denver, Colorado, to whom a patent has been issued.

JANIN'S TILE.

THE distinctive feature of the rubber tile pattern illustrated is that only form is required for all the pieces therein, which is not true of every interlocking tile. Each side of every piece is formed of a hook-shaped tongue, and a hook-shaped complementary to the said tongue in shape and size, the hook extend-

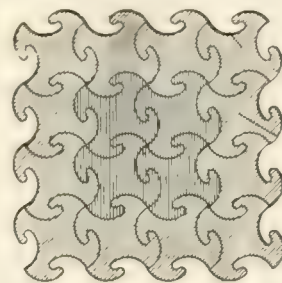


FUSIBLE CORE HOT WATER BOTTLE.

which the rubber vulcanizes, and may be removed from the rubber article in the form of a liquid after vulcanization. Rubber goods may be made to any thickness by this process and reinforced with fabric if desired, and subjected to any necessary pressure of the mold. Heat applied from the outside will cure the rubber all the way through, and at the same time melt the core. The result of applying this process to hot-water bottles, for example, is to produce an article in a single piece, without seams or joints. Tire tubes may be constructed on the same principle, the fusible mandrel being discharged through the air valves. Likewise life preservers, the gas containers of dirigible balloons, and so on. This process has been patented by Frederick J. Gleason, vice-president and general manager of the Massachusetts Chemical Co. (Walpole Rubber Works, Walpole, Mass.), who are manufacturers of the water bottle here illustrated.

NEW NON-SLIPPING RUBBER.

ONE of the features of the Banigan line of rubber footwear which has been introduced this year is a non-slipping characteristic. By mixing steel wool with the rubber compound used for the heels and soles not only is the liability to slipping, even on smooth ice, lessened, but the wear re-



JANIN'S TILE PATTERN.

ing outward and the recess inward, the terminal of the hook of the tongue defining the hook portion of the recess, the tongue and the recess occupying the entire extent of the side. United States patent No. 909,603 has been granted to Albert S. Janin, of New York, for this design.

TAYLOR'S WATCH HOLDING CASE.

THE convenient little device illustrated here is intended for use by motormen on street cars and others who require often to consult their watches, and need therefore to have them convenient of access, without risking the loss of the timepieces. This case is made of gutta-percha and weighs only three ounces. It is fitted with cushions and spring to prevent jarring, and



WATCH HOLDING CASE.

is adjustable to any size of watch. The spring clamp can be snapped instantly onto any part of a car, whereby the motorman can have the time under his eyes constantly, instead of being obliged frequently to draw the watch from his pocket. The retail price is \$1.50. [Taylor Brothers, No. 921 West Superior avenue, Cleveland, Ohio.]

THE "KINDER" TIRE CASE.

THE Hopewell line of tire cases, which have become widely known and have been illustrated in these pages, has been supplemented by a new product—the Kinder case—which is shown in the picture herewith. It is of the button type. The

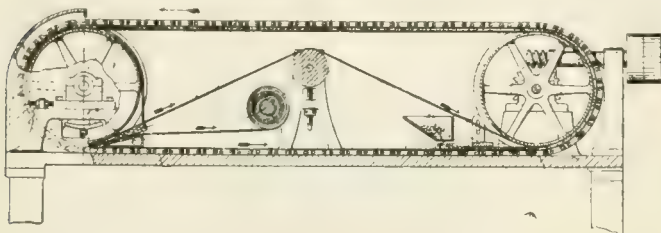
case is made of drill and is held in place by five buttons. It is waterproof and is referred to as being very serviceable. It retails at \$2. [Hopewell Brothers, Cambridge, Massachusetts.]

"PEERLESS EMPIRE" MOTORCYCLE V BELT.

THE manufacturers of the belt illustrated herewith point to the fact that it is the first one of American make to be offered to the trade, while they guarantee it to be as good as anything imported. The illustration shows it in the form in which it is packed for shipping. [Empire Automobile Tire Co., Trenton, New Jersey.]

COATING FABRIC WITH POWDERED WASTE.

THOMAS GARE, a well-known British experimenter, has patented a short cut in the manufacture of rubber plastics. For example, he takes powdered rubber waste, sprinkles it on a fabric which, running over suitable rolls, enters a revolving

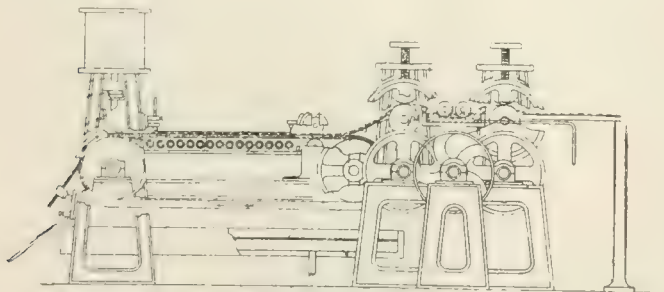


THOMAS GARE'S RUBBER MACHINE.

drum where a rotary surface presses the waste to the desired density, frees it from air, devulcanizes and revulcanizes it, so that it emerges a calendered, vulcanized, finished sheet, with a fabric backing.

COAGULATING LATEX BY ELECTRICITY.

QUITE a novel invention is that shown in the accompanying illustration, which is in brief an endless belt, the upper surface of which is coated with graphite, so that when it is electrified it becomes a continuously moving anode. The cathode made of suitable metal hangs about one-half inch above the surface of the belt. The latex held in the tank shown in



COCKERILL'S ELECTRICAL APPARATUS FOR COAGULATING LATEX.

the picture is allowed to run down upon the slowly moving belt where the current of electricity coagulates it, the water running off into drip pans below. The film of rubber is scraped from the surface of the traveling anode and run through squeezing rolls which expel any surplus moisture. This has been patented by Thomas Cockerill, of Ceylon.

INTERNATIONAL RUBBER EXHIBITION.

IT is stated that the German rubber manufacturers have promised to support the International and Allied Trades Exhibition, which is being organized for London for May, 1911, and the Standige Ausstellungskommission für die Deutsche Industrie, a semi-government affair, have also given their support.

RUBBER PRODUCTION OF PERU.

THE steady increase in the export of rubber from Peru is indicated by some figures kindly supplied to THE INDIA RUBBER WORLD by Señor Don Eduardo Higginson, the Peruvian consul-general at New York, for 4 recent years, during which time the total from Iquitos increased 33 per cent.

As for the grades covered by the following table, compiled by the consul-general, it may be noted that "slabs" and "sausage and balls" are different grades of the rubber known in the United States trade as Caucho and hitherto in some other markets as "Peruvian rubber." In recent years, however, the collection has increased in Peru of rubber of the same grades as Pará, which rubber formerly was described often as "Jebe" (*Hevea*). In the table, therefore, the terms "fine" and "coarse" are Pará rubber, or "Peruvian fine" and "Peruvian coarse," the term Peruvian here having now a different designation than formerly. "Weak rubber" is believed to come from a *Hevea* species in the Peruvian uplands, as distinguished from the trees growing in districts subject to annual overflow of the rivers.

In the table annexed "Pacific ports" include Callao and Mollendo. Values are stated in United States gold. The table fails to include the shipments through Pacific ports in 1904 and 1905:

GRADES.	PACIFIC PORTS.		IQUITOS.	
	1904.	1905.	1906.	1907.
	POUNDS.	VALUE.	POUNDS.	VALUE.
Slabs	116,312		157,733	\$100,135.85
Sausage and ball.....	2,287,648		2,946,797	2,252,036.95
Weak rubber	42,744		1,652,633	1,625,672.75
Fine rubber	1,705,748		727,208	551,770.75
Coarse rubber	661,603			
Total		4,814,055		\$3,312,566.15
Slabs				
Sausage and ball.....				
Fine rubber				
Coarse rubber				
Total			5,484,371	\$4,529,616.30
Slabs	34,102	\$15,606.00	77,506	\$52,845.00
Sausage and ball.....	1,540	350.00	2,845,845	2,232,819.53
Fine rubber	121,354	55,162.00	1,757,833	1,742,898.65
Coarse rubber	3,809	886.75	739,092	567,782.80
Total	160,895	\$72,004.75	5,420,276	\$4,506,345.95
Slabs	168,087	\$92,221.60	144,804	\$94,445.75
Sausage and ball.....	89,124	41,825.40	2,986,982	2,036,962.00
Weak rubber	7,256	3,298.00	641,014	339,495.85
Fine rubber			1,792,922	1,478,410.60
Coarse rubber	1,146	260.50	830,100	685,945.20
Total	265,613	\$137,605.50	6,395,822	\$4,635,259.40

INAMBARI RUBBER RESULTS.

At the first annual meeting of The Inambari Para-Rubber Estates Limited (London, January 28), the chairman, Sir William Martin Conway, went into detail as to the extent to which preparatory work on the company's properties in Peru had absorbed the energies of the management during their first year, ended June 30 last. They had practically completed the building of the roads required by the government as the price of their concession, and would be in a position shortly to place on the river Inambari the small steamers needed in carrying out the business proposed. The collection of rubber during the first year amounted only to 12,307 pounds, which was sold at a good price. But there were now 200 rubber pickers on the ground and others had been contracted for; the company had stocks of merchandise for use in trading with the natives, and they felt in a position now to carry on extensive operations in rubber gathering in the current year. The rubber referred to is *Hevea*, besides which caucho has been discovered on the estate, and they have also bought some caucho from neighboring properties which are not so well provided with outlets to market. [See THE INDIA RUBBER WORLD, June 1, 1907—page 284.]

THE Gandy Belt Manufacturing Co., Limited—makers of cotton belting for machinery—earned during 1908 net profits of £12,340. Dividends, 7 per cent.

COST OF PLANTATION RUBBER.

THE cost of production of plantation rubber in the Far East is estimated by Mr. Fritz Zorn, of London, at about 1s. 6d. [=36.5 cents, gold] per pound on an average. The Ceylon *Observer* expresses the opinion that in Ceylon, at least, before many years this figure will be reduced one-half. The *Observer* bases its prediction of reduced cost upon the experience of the tea planters, whose crops to-day are so much more economically produced than only a few years ago. The Vogan Tea Co. of Ceylon, Limited, collected last year 28,246 pounds of rubber from cultivated trees, at a cost which they figure out at 10½d. [=21.28 cents] per pound, including cost of tapping knives, upkeep, supervision, and so on, which figure they expect to reduce considerably this year. They have sold their biscuit and sheet rubber ahead at a price equivalent to \$1 per pound, of which they calculate that 81.1 cents will be profit. The Ceylon Tea and Coconut Estates Co., Limited, are referred to as having produced rubber at a still lower cost—9¼d. [=18¾ cents]. Higher costs are reported upon Malaya. Damansara (Selangor) Rubber Co., Limited, report an average cost pound in 1908 of producing their rubber crop to f. o. b. of 1s. 4d. [=30.42 cents, gold]; adding freight, selling expenses and the like, the total cost works out at 18.25d. [=37 cents] per pound.

Commenting on the promise of the Synthetic Rubber Co., Limited, to produce a serviceable synthetic rubber at 1s. per pound, the usually well-informed London *Financier and Bullionist* declares "that this year and in the years to follow the big producing companies in the East [meaning planters] will be able to market an infinitely superior product at considerably lower cost" than a shilling per pound.

The cost of wild rubber continues to be discussed, in comparison with the cost of producing rubber on plantations. Mr. Harrington Edwards writes to the *Financier and Bullionist* that the Galvez Rubber Estates, Limited, operating in Peru, and of which he is a director, during their first year's working, found the cost of production to arrival in the London market to be 1s. 8d. [=40½ cents] per pound. He doubts whether, on the whole, plantation companies will be able to do better, whatever certain ones may accomplish.

The elements which must enter into any consideration of rubber costs are many and varied, rendering comparisons difficult. Up to date little systematic study of costs has been made except on the Eastern plantations which have become large producers. One of the factors in the high cost of crude rubber is the small population of the Brazilian states which produce this material. The most important source of "Pará" rubber to-day is the state of Amazonas, which, by the census of 1908, is found to contain only 249,756 inhabitants, more than one-fourth of whom live in the city of Manáos. The remainder are scattered over 90,928 square miles of territory, or nearly double the area of New York state. Not all of these denizens of the forest are sufficiently civilized even to gather rubber, and of course all the others are not available for such work. Seeing how difficult it is to secure rubber workers from the outside, owing to climatic and certain other conditions, it will readily be understood that a chronic scarcity of labor exists, which prevents any rapid increase in the output of rubber, no matter how attractive may be the prices in the consuming markets.

THE GROWING PLANTATION RUBBER YIELDS.

DETAILS of rubber plantation yields in Ceylon and Malaya given in Zorn & Leigh-Hunt's "Manual of Rubber Planting Companies" afford a basis for some interesting comparisons. These details relate to 61 producing plantations, for 31 of which the rubber yield is stated for two years past—2,306,807 pounds in 1908, against 1,421,970 pounds in 1907. For 16 of the companies the yield is reported, in pounds, for three calendar years, as follows:

	1906.	1907.	1908.
Anglo-American Direct Tea Trading Co.....	22,375	23,994	29,600
Anglo-Malay Rubber Co.....	91,703	224,778	349,450
Bukit Tiga (Selangor) Rubber Co..	23,203	118,982	163,521
Ceylon Tea Plantations Co.....	7,132	13,426	24,000
Consolidated Malay Rubber Estates	32,693	63,615	111,585
Federated Malay States Rubber Co.	13,332	32,175	66,725
Golden Hope Rubber Estate.....	2,400	5,591	15,660
Highlands and Lowlands Para Rubber Co.....	134,285	193,507	210,852
Kepitigalla Rubber Estates.....	28,100	35,064	37,646
Malacca Rubber Plantations.....	17,000	7,619	46,584
Pataling Rubber Estates Syndicate.	43,310	58,064	80,922
P. P. K. (Ceylon) Rubber Estates..	8,305	14,800	29,000
Roschaugh Tea and Rubber Co....	80,500	153,358	223,470
Selangor Rubber Co.....	70,577	120,524	180,000
Vallambrosa Rubber Co.....	39,113	156,922	225,302
Yatiantota Ceylon Tea Co.....	8,790	5,870	7,500
Total	631,818	1,227,689	1,807,913

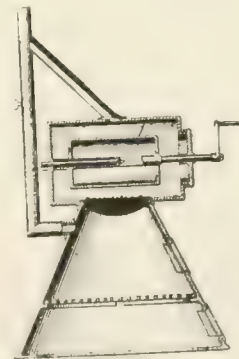
The estimates of yields of rubber plantations, made in advance, have come to be of interest, especially since, as a rule, such estimates are generally exceeded by the actual output. The "Manual" referred to gives the estimated yield in 1909 of 9 companies embraced in the preceding table, the figures comparing as follows with three years past:

	1906.	1907.	1908.	1909.
Pounds.....	458,616	974,158	1,410,113	1,750,000
Inc. over former year..		113%	45%	24%

These, and many other equally authentic figures which might be quoted here, indicated that the production of plantation rubber is increasing rapidly, and would seem to justify even enthusiastic predictions as to the further development of the planting interest.

MECHANICAL COAGULATION OF RUBBER.

THE latest application of machinery to the coagulation of rubber latex by smoking is illustrated in the drawing herewith of an apparatus patented by Enrique Molina, of Lima, Peru. The apparatus consists of a rectangular smoke chamber, within which is supported a revolving drum in which is contained the latex to be heated, provided with mechanical means



MOLINA'S RUBBER SMOKING APPARATUS.

for revolving the drum. The whole is supported by a conical base forming a fire chamber, in which the fuel used is placed, and reference is made to means for purifying and cooling the smoke passing from the base into the smoke chamber. The United States patent covering this invention is No. 914,156, dated March 2, 1909.

THE important Neu Guinea Compagnie (Berlin), whose plantations in New Guinea embrace over 2,700 acres in rubber, of various species, report during the business year ending March 31, 1908, that tapping had begun, on a small scale. It is of special interest to note that the product included 2,162 kilograms [=5,486 pounds] of *Castilloa elastica* rubber, of which species they have 667 acres under cultivation.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

A CONSERVATIVE estimate of the condition of the rubber trade in San Francisco and the Pacific coast is that business is good enough to prevent complaint from any source, but that the rubber houses are not looking forward to an exceptionally busy year for 1909, though they expect to see busy times soon after. The financial condition has been in suspense for so long that it cannot recover sufficiently to make this an unusually big year for the wholesale rubber houses. Out through the interior the retail establishments have been conducting their business along more conservative lines, and have not been extending very much credit to their customers. For this reason the customers have not bought so freely, and stocks have not been turned over to any great extent. The retailer cannot and has not ordered as heavily as he might otherwise, for that reason, as well as the reason that he has not been given the extensions of credit that he would get in former years. As the orders for the coming season are mostly in, the rubber houses cannot expect a very great revival until the next season opens, but they all assert that each month of this year has shown an improvement and a better tone generally to trade. It has been noticed that this season the mill men have been inclined to patch up their old belting and have bought sparingly of the new. Another feature of the trade has been the demand for the cheaper grades of hose of all kinds.

The Association of Stationary Engineers of California will hold their state convention in San Francisco this year at the big auditorium, and it will also include a mechanics' fair, consisting of machinery and manufactured products of all kinds which will be displayed June 14-19. Most of the rubber factories that have agencies in this city will have exhibits at the fair, and the local factories will make some interesting exhibits of mechanical goods.

Mr. Ellert, traveling man for the Sterling Rubber Co., has returned from an extensive trip through the mill country and the farming communities in the Sacramento valley. He found, he said, that there has been so much snow in the mountains that the mills have not fairly opened, although another traveling man with the firm has been securing big orders from other milling districts. In the Sacramento valley the floods rather paralyzed things so that the sundry business for this trip was quiet. The Sterling company are now putting out the Seamless Rubber Co.'s "Kantleek" tire inner tubes.

Mr. McNeilly, of the Barton Packing and Rubber Co., reports that the firm are in a position to gather in some of the big business which he believes is about due. They have recently installed a large press, they are operating a large new mill, and will have a calender running soon.

Mr. W. O. Franklin, who has traveled for many years for the Boston Woven Hose and Rubber Co. through southern California and Arizona, has left that firm and associated himself with the Gladiator Packing and Rubber Co., of Los Angeles. Mr. Joseph V. Seiby, Pacific coast manager of the Woven Hose company, states that trade conditions are becoming more satisfactory.

Mr. L. D. Torrey, son of L. L. Torrey, of the Pennsylvania Rubber Co., states that business is good, and that they have bigger orders booked ahead than they have had at any time within two years. Business, he says, has been especially good in tires, as it seems that the automobile business has been remarkably active this year. Business establishments are finding that they have to buy commercial automobiles to compete with others who are getting them. Mr. L. L. Torrey has accompanied the members of the San Francisco Chamber of Commerce on their trip through the farming sections of the San Joaquin valley.

Mr. Sargent, manager of the Gorham Rubber Co., reports that business is improving right along, and that collections now are very good. This firm is getting a special show room fitted up for the display of a large stock of fire equipment goods. The company have secured a new auto delivery wagon, which makes two they are now using, besides two other automobiles for the use of the salesmen.

Mr. S. L. Plant, president of the Plant Rubber and Supply Co., states that conditions are about normal. Mr. J. L. Plant, father of S. L. Plant, died on April 6 at his home in Retford, England, of which town he was mayor at that time.

J. R. Gates & Co., wholesale dealers in drugs and druggists' sundries, at No. 113 Davis street, have been declared bankrupt, and a sale of the stock of the store has been made by the trustees in bankruptcy.

Mr. Ralph, of the Phoenix Rubber Co., reports that this firm have met with continued success. Mr. Kanzee, of the firm, has devised a new rack which has been satisfactory to such a degree that the firm will place it extensively on the market.

George Sweeney, who is handling the new rubber lines which are being carried by the Eccles & Smith Co., reports that the first month has resulted in a very satisfactory business.

Fred S. Winslow, the new manager of the Pacific Coast Rubber Co., states that they have been working night and day getting things in shape and that business has been very good.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

A CONSENSUS of the carload shipments of manufactured commodities in and out of Akron each month was taken recently and has just been announced. It was found that the average monthly shipments by the four largest rubber companies of the city in the latter part of 1908 amounted to 466 cars. This estimate does not include "less carload" business, by which a large part of the rubber companies' shipping is done. The total monthly carload shipments for the city was estimated at 11,000 cars.

At a special meeting of the shareholders of the Goodyear Tire and Rubber Co. on April 12, the capital stock of the company was increased from \$1,000,000 to \$2,000,000. The preferred and common stock are each increased from \$500,000 to \$1,000,000. The meeting was formal and most of the shareholders were represented by proxies. Charles W. Seiberling, vice-president of the company, said that part of the new stock will be placed on the market. The expansion of the trade and manufacturing facilities of the company has made the new issue of stock advisable. At the same meeting resolutions on the death of Byron W. Robinson, late director of the company, were adopted.

Mr. H. S. Firestone, president of the Firestone Tire and Rubber Co., returning from a vacation trip to the South, pronounces the island of Cuba as the most delightful place in America for automobile touring. Its delights are largely due, he says, to the coral stone roads, built by the United States government and now in a process of extension under the direction of the Cuban government. In company with Mrs. Firestone he toured the island as the guest of James Cousins, of the Ford Motor Co.

By way of experiment The Diamond Rubber Co. have been trying a double pneumatic tire on one of their trucks. The idea has come into wide notice since the New York *Herald* equipped its trucks with imported double pneumatic. Results of the test have not been announced, but it is probable if it does not develop that there is an undue amount of chafing between the tires composing the pair, that the Diamond company will take up their manufacture extensively.

Akron tire manufacturers are little concerned about the prospect of a change in the tariff on automobile tires as contained in the Payne bill. According to a provision by the senate finance committee the rate on tires is made equal to the 45 per cent.

rate on automobiles and other auto accessories. Local men say that the former rate of 30 per cent. was sufficiently high to prevent competition, and that the new rate will make no change in the situation.

In the journal *Commerce*, the leading financial authority in the state, the thriving condition of the automobile tire industry in Akron, this city, is mentioned as the basis of the prosperity apparent in this community. Among other manifestations of prosperity mentioned by the journal is the fact that gross passenger earnings of city street car lines show a month by month increase of from 15 to 25 per cent. over last year.

The factory forces of Akron rubber companies are now the largest they have ever been. According to an estimate compiled by the Akron Chamber of Commerce, more than 2,000 additional employes have been added to the forces of the four principal rubber companies since January 1. This increase is distributed as follows: Goodrich, 800; Diamond, 800; Goodyear, 250, and Firestone, 275. The increased number is due partly to the completion of factory additions.

The Diamond Rubber Co. began excavations during the latter part of April for a new office building and laboratory. It will be 148 x 50 feet and three stories high. The laboratory is intended to be the best equipped of any establishment connected with the manufacture of india-rubber in the United States, according to a statement of an officer of the company. The part of the building to be devoted to office purposes will serve merely as an addition to the present office. The company are also planning a new firestone building about 200 x 100 feet. This will be uniform in style with the insulated wire building recently completed.

NEW CABLE SHIP FOR NEW YORK HARBOR.

THE fire control system maintained by the United States government, through the signal corps of the war department, embraces a most important application of submarine telegraphy. It is a system of wires, cables and instruments by means of which an exact sight or aim can be obtained on a vessel some distance from shore, for the purpose of firing upon her. The cables run to several points, at which men are stationed who calculate the distance, speed, etc. This information is telephoned or telegraphed to the adjacent fort, and from the commanding officer to the gun crews. Allowances for speed, distance, and so on, are all calculated to a nicety, the aim is invariably correct and the fire is, therefore, effective. There are now in commission slightly more than 2,000 conductor miles in 212 linear miles of submarine cable, chiefly in connection with the principal fortifications on the Atlantic coast.

There are hundreds of wires in New York harbor alone, liable to constant injury from ocean lines and local shipping as well, and repair facilities are a necessity. There has just been completed for the government a cable ship, to be stationed near New York, which will be put at the disposal of the signal service. This is the *Joseph Henry*, measuring 165 feet over all and 32 feet beam; displacement 500 tons; engines, 1,000 HP.; speed 13 miles an hour. A second and similar ship has been ordered for the signal ship. The government already has a cable ship, *The Burnside*, of 2,194 gross tons, maintained in connection with the cable services in the Philippines and between Seattle and Alaska.

Hitherto repairs to signal service wires have been delayed in some instances, due to the necessity for placing orders for cable to be used in making repairs. This will be obviated in the future by providing in each artillery district reserve lengths of cable which will be available at all times.

THE new edition of Mr. Pearson's "Crude Rubber and Compounding Ingredients," advertised on another page, has now been completed and is ready for distribution.

THE LAW AND WIRE INSULATION.

THE owners of high-tension electric wires, located at places where people have the right to go for work, business or pleasure, must see to it that the insulation is made as perfect as is reasonably possible and exercise care to keep them in that condition; otherwise they may be held in damages for injuries resulting without negligence on the part of the person injured. This was held where it appeared that a smelting company maintained an insufficiently insulated wire, strung 4 feet above the roof of its building and carrying about 2,500 volts. The plaintiff in the action was in the employ of the company at the time of the accident, and had been sent out on the roof of the building to make certain repairs. The roof was in a wet and slippery condition, and the plaintiff, being a common laborer and ignorant of electrical knowledge, grasped the wire to keep from slipping and falling. It was held that in sending the employe on the roof the company was bound to anticipate that he might come in contact with them, and should have provided against such an unfortunate contingency by having its wires in a properly insulated condition. Such was the decision in *Colusa Parrot Mining and Smelting Co. v. Monohan*, in the United States circuit court of appeals.

NEW TRADE PUBLICATIONS.

EUREKA Fire Hose Manufacturing Co. issue a General Catalogue of Fire Hose and Supplies for Fire Departments, Railways, Steamships, Wharves, Factories, Hotels, Public Institutions, etc., which is the most elaborate publication of the kind which has yet appeared. It lists the various styles of cotton and linen rubber lined and unlined hose for fire department use and interior fire protection, the variety of which is suggested by the fact that the company have registered no fewer than 46 trade marks on their products in this field in the United States, in addition to those registered in Canada, Great Britain, Cuba, Mexico and South American countries. This catalogue embraces, in addition to hose, a great variety of fittings and hose appliances, covering indeed the whole equipment of a city or village fire department, with the exception of fire engines of the larger class, which, as a rule, are manufactured by companies devoted exclusively to their production and under patent protection. Nearly every page carries one or more illustrations, and the index embraces 18 columns. [5¼" x 8". 224 pages.]

THE BRISTOL Co. (Waterbury, Connecticut), have issued advance partial lists of Bristol's Recording Pressure and Vacuum gages which are adapted, among other purposes, for rubber dryers, and feed water of steam boilers. [8" x 10½". 24 pages.]

THE CANADIAN RUBBER CO. OF MONTREAL, LIMITED, devote their Catalogue L to Fire Hose, Brass Fittings and Fire Department Supplies. They manufacture these articles in large variety, and many of them are illustrated in this attractive catalogue. [6" x 9". 65 pages.]

STEWART & HOLIHAN (New York), issue their catalogue No. 34 of Rubber Stamps. It illustrates a number of their patented designs in this field, together with many accessory articles. [10" x 11". 32 pages.]

THE WILLIAMS FOUNDRY AND MACHINE Co. (Akron, Ohio), under the title "Automobile Tire Building and Repair Equipment," issue descriptions of their products in this line, including several novelties of more than ordinary interest. [7½" x 9¾" 26 pages.]

E. J. WILLIS & Co. (New York), in their 1909 catalogue of Automobile Supplies and Clothing list and illustrate more than 600 items, embracing so many articles into which rubber enters as to demonstrate that without rubber there would be little motoring. [9" x 6¼". 64 pages.]

ALSO RECEIVED

C. KENYON Co., Brooklyn, New York. Auto Seats and Bumpers. 16 pp.

News of the American Rubber Trade.

THE NEW ENGLAND RUBBER CLUB'S ANNUAL.

THE recent naval dinner of the New England Rubber Club, held so late in the season, came so near the date of the annual meeting, which is regularly set for the third Monday in April, that it was decided not to have a smoker or any other form of entertainment at that time. The secretary, therefore, sent out notices calling a business meeting in accordance with the by-laws. Enough officers and members of the club met at the American House, Boston, where they listened to the report of the secretary and treasurer and elected officers for the ensuing year. The question of the mid-summer outing was also taken up and discussed informally. The secretary's report follows:

"The ninth year of the Club's existence having come to a close, finds it in a most satisfactory condition. Its membership continues to hold the high figures obtained two years ago, and the rubber trade in general look forward to the gatherings held by the Club with a great interest, and guests come from far and near to enjoy their functions.

"Two entertainments have been held the past year. First, the regular summer outing, held Wednesday, July 15, goes down in the history of the Club as one of the most pleasant ever held. The boat rides, the ball game at the Fort, and the dinner at Point Shirley will long be remembered. Second, the annual mid-winter dinner was held at the Algonquin Club, Commonwealth avenue, which is an ideal place for such events. The popularity of these dinners was manifested by its being favored with one of the largest attendances ever had. The presence of the officers of the around the world fleet made the evening a pleasure to remember.

"Our membership in the Massachusetts State Board of Trade has been maintained.

"The past year has taken from our midst two of our esteemed members, Theodore S. Bassett and H. D. Warren. Their absence from our meetings will be a great loss, and their memories long cherished.

"The club's outlook for the coming year is a bright one. Every member feels that the affairs held by the club are beneficial in promoting a fuller feeling of goodfellowship, and this makes them a pleasure to attend. Respectfully submitted,

"ROBERT L. RICE, Secretary."

The officers elected were: Henry C. Pearson, president; Frederick C. Hood, vice president; J. Frank Dunbar, treasurer; George H. Mayo, secretary, and Frank D. Balderston, assistant secretary. The directors are: Costello C. Converse, Elisha S. Williams, George P. Whitmore, Frederick H. Jones, Ira F. Burnham and Robert L. Rice. The list of honorary vice presidents now includes: L. D. Apsley, Augustus O. Bourn, Robert D. Evans, James Bennett Forsyth, George H. Hood, Henry C. Morse, John H. Flint, Alexander M. Paul, and Arthur W. Stedman.

A committee was appointed to draft appropriate resolutions containing a vote of thanks to the retiring president, Mr. Stedman, for the interest he had shown and the work done in behalf of the Club.



NEW OFFICERS OF THE NEW ENGLAND RUBBER CLUB.

The treasurer's report follows:

RECEIPTS.		
Bank balance, April 20, 1908.....		\$874.99
For initiations	\$35.00	
Annual dues	1,003.75	
Assessments	1,197.47	2,206.22
Total		\$3,171.21
DISBURSEMENTS.		
Dinners	\$2,394.95	
Sundries as per vouchers	157.39	\$2,552.34
Bank balance and cash on hand.....		618.87
Total		\$3,171.21

FREDERICK H. JONES, Treasurer.

AFFAIRS OF THE UNITED STATES RUBBER CO.

THE directors of the United States Rubber Co. on April 1 declared from net profits the regular quarterly dividends of 2 per cent. on the first preferred stock and of 1½ per cent. on the second preferred stock, payable on April 15, without closing of the transfer books.

The annual meeting of shareholders of the United States Rubber Co., for the election of directors and the transaction of any other business which may properly be brought before the meeting, will be held at the registered office of the company, in New Brunswick, New Jersey, on Tuesday, May 18, at 12 o'clock noon. Under the laws of New Jersey no shares of stock may be voted which shall have been transferred after April 27.

HARTFORD RUBBER WORKS CO.—CHANGES.

THE resignation of Henry Plow from the position of treasurer of the Hartford Rubber Works Co., which he had held for two years past, to become connected with the Mitchell Motor Car Co. (Racine, Wisconsin), has been followed by the election as treasurer of James P. Krogh, who has been with the Hartford company for 13 years. D. W. Pinney, who has been Mr. Krogh's assistant in the credit department, has been appointed assistant treasurer, and Franklin Kesser, lately sales manager, has been made assistant secretary.

MORGAN & WRIGHT (DETROIT).

WILLIAM McMAHON has been appointed superintendent of this company's factory at Detroit, Michigan. A. A. Templeton, who formerly was their superintendent, is now general factory manager, succeeding George A. Burnham, who died in November last.

TO MAKE RUBBER TIRES IN NEW HAMPSHIRE.

RUBBER Steps Manufacturing Co. (Exeter, New Hampshire) are adding to their present plant, devoted hitherto to the manufacture of rubber-covered carriage steps, sill plates and car and stair treads, an outfit for making automobile tires and repairs of the same, together with plant for working their own rubber stock. They have issued a list of tire-repairing prices, and expect soon to begin to make tires. The company will continue the rubber-step business. Later they intend reorganizing the company, with a change of name and increased capital. The Rubber Step company have been located at Exeter since 1892, when the business was removed from Boston. Mr. Daniel Gilman has been owner and manager all the while.

GUTTA-PERCHA AND RUBBER OF TORONTO.

ON account of the death of Mr. Harry D. Warren, president of the Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, reported in our last issue, a new official list is announced. S. T. Warren (Mrs. H. D. Warren) has been elected president and Trumbull Warren treasurer. Charles N. Candee secretary, assumes the additional title of general manager.

THE CANADIAN ASBESTOS MONOPOLY.

THE Amalgamated Asbestos Corporation, Limited [see THE INDIA RUBBER WORLD, April 1, 1909—page 263] has been incorporated under the laws of the Dominion and is proceeding to acquire the principal asbestos producing properties in the province of Quebec, which are estimated now to supply about 90 per cent. of all the asbestos used in the world. The capital is \$10,000,000 besides an authorized indebtedness of \$15,000,000, in 5 per cent. bonds, one-half of which amount is to be issued at once. The directors include capitalists of Canada and also of Boston, Philadelphia, New York and other American cities, including Dr. Richard V. Mattison, president of Keasbey & Mattison Co. (Ambler, Pennsylvania), manufacturers of asbestos and rubber packings. The properties to be merged, controlling about 80 per cent. of the Canadian production, are now making net earnings of \$556,000 annually. The Canadian asbestos output was estimated at 700 tons in 1878, since which time the yearly output has grown to upwards of 60,000 tons. The total production to date in Quebec has been over 400,000 tons, having an

aggregate value of \$18,000,000. The principal mines are considered practically inexhaustible, and many known deposits remain to be developed.

"NOW SILENT RUBBER FACTORY."

THE Providence (Rhode Island) *Journal* in a recent issue devoted a half page to a story of travel of one of its reporters in search of the suburb of South Elmwood. The conclusion he reached was that the people who live in South Elmwood know where it is, but this knowledge is not shared by many other residents of Providence. The story on the whole is meant to be facetious, but a serious paragraph in it relates to a "now silent rubber factory"—that of the defunct Atlantic Rubber Shoe Co. It is suggested that if this plant should be sold and a new manufacturing concern established, there might come a "boom," and an increase in the population of South Elmwood. It is stated that "people have been out to look at the factory," but as yet no definite offer for it has been made.

AN EMERGENCY ORDER FOR FIRE HOSE.

THE Eureka Fire Hose Manufacturing Co. (New York), on April 13, following the large fire at Rochester, N. Y., received a telephone message from that city ordering 5,000 feet of their "Paragon" fire hose. This message was received at 5:05 P. M., and the order was filled before midnight. The express train on the New York Central and Hudson River railroad leaving New York at 11:45 P. M. carried the hose referred to, although it had been necessary, at the Eureka company's factory, at Jersey City, New Jersey, to thread 100 sets of couplings, attach them to the hose, and then haul the hose from Jersey City to the railway station in New York. The Eureka Fire Hose Manufacturing Co. suggest: "A universal thread adopted by all fire departments would be a great thing, as with the volume of business we are doing, we could carry several thousand sets on hand, and would be able to ship a very large quantity of hose in case of an emergency in a few hours after receipt of order."

TRADE NEWS NOTES.

THE Cawn Mining and Manufacturing Co. (Canton, Ohio) state that their advertisement in THE INDIA RUBBER WORLD already has attracted attention to their product, Aluminite, abroad as well as at home, and brought them a number of inquiries regarding it from Europe.

Mr. E. B. Southworth has retired from the superintendency of the Stoughton Rubber Co. (Stoughton, Massachusetts) to accept the position of manager of the George E. Belcher Last Co. As he was leaving the Stoughton Company Mr. Southworth was invited into one of the large workrooms in which the employés had gathered, when President Burnham, in their behalf, tendered him a valuable and handsome present, accompanied by a speech expressing their appreciation of him.

The United Indurated Fibre Co. (Lockport, New York) have passed under the control of the H. W. Johns-Manville Co., the asbestos manufacturers.

The Wire and Telephone Co. of America (Rome, New York) have discontinued their western sales agencies and concentrated their selling department at the home office.

The Western Electrical Co., dealers in electrical supplies at Omaha, Nebraska, to avoid confusion of their name with that of the Western Electric Co. (Chicago), who lately opened a branch in Omaha, have adopted the name Johnston Electric Co.

Mr. R. Lloyd Jones, having retired as secretary-treasurer of The Canadian Rubber Co. of Montreal, Limited, this office has been taken over by Mr. Leonard D. Shaw.

The National India Rubber Co. finished recently a government order for 5,000 army blankets. About 1,500 employés are now at work in the factory.

The Fisk Rubber Co.'s mechanically fastened on tires are reported to have been adopted for the equipment of their fire department apparatus by the Robinson Fire Apparatus Manufacturing Co. (St. Louis) and La France Engine Co. (Elmira, New York).

GOODRICH NEW YORK HEADQUARTERS.

THE B. F. Goodrich Co. (Akron, Ohio) have established their business in New York in one of the most notable buildings in upper Broadway, in the heart of the automobile and tire trading district. The character of the building alone, and the amount of space which they occupy in it, indicate the importance of their trade in the East. Six of the twelve stories in the building of which a view is given on this page, are occupied by the Goodrich company, who are concentrating in one place all their business in New York—mechanical and general goods as well as tires—which means that the premises so long occupied by this company in Reade street will be vacated. The business of this great Akron concern, by the way, in New York and the East generally, is conducted under a separate corporate title—The B. F. Goodrich Co., of New York. The new building, of which an illustration is shown on this page, has been erected by the Goodrich company, or land owned by them.

AN ENORMOUS PIECE OF RUBBER.

[FROM "FOLHA DO NORTE"
(PARÁ) MARCH 27.]

PART of the cargo of the steamer *Eurico*, which arrived a few days ago from the Acre was an enormous piece of rubber weighing 508 kilograms [=1,118 pounds], consigned to Leite & Co., of this city. This was prepared by the *seringueiro* [rubber cutter], Henrique I. Dos Santos, with the help of his two sons, under age. It took them five months to do it, and they used in its preparation 800 bottles of milk, weighing as many kilograms, and this was its weight when it was still fresh. This man Santos, whose crop with that of his sons amounts to 1,979 kilograms of rubber, works in *seringal da Bocca do Riozinho*, the property of Senhor José Maria Dias Pereira, who have other rubber plantations in the Acre region, and they send annually about 250 tons to Messrs. Leite & Co., *aviadores* of Pará. It took 25 days for the transportation of this enormous piece of rubber from the plantation to the river bank of the Acre, and on account of its excessive size it went in a boat by itself. This is a great curiosity, and perhaps the biggest ever manufactured in the Amazon, and in view of this Messrs. Leite & Co. have decided to exhibit it in this city, afterwards ship it to New York, and from that port to Europe, so as to be exhibited at the next rubber exhibition in England.

[THE interesting specimen of rubber mentioned in our Pará contemporary has arrived in New York and is on exhibition in one of the windows of the New York branch of The Diamond Rubber Co.—THE EDITOR.]

GOOD BUSINESS OF F. R. HOWELL BRASS WORKS.

F. R. HOWELL Brass Works, (Philadelphia), who were burned out on April 3 at No. 716 Cherry street, are already in full working order at No. 122 North Franklin street, where they are even better prepared than before to fill orders for hose couplings, brass

hose fittings and fire department supplies. Recently they have filled some large orders for couplings from the Isthmian canal zone and for the New York fire department. They have made some important contracts with large railway companies for their new Aubrey couplings. Mr. F. R. Howell, of this company, has had eighteen years' experience in this line of business.

TRADE NEWS NOTES.

THE Archer Rubber Co. (Milford, Massachusetts,) are about ready to occupy their new quarters, in the building formerly occupied by the Milford Rubber Co., and the purchase of which for use by the Archer company was reported recently in this journal.

Frederick Dockendorf during the month completed a half century of employment at the College Point plant of the American Hard Rubber Co., in recognition of which he received from the company a present of a substantial sum of money and a letter of commendation for his faithful service. This was in accordance with the policy of the company, who now have on their list of employes several men who have been with them for more than a half century.

The Firestone Tire and Rubber Co. (Akron, Ohio) have consolidated their two branches in St. Louis in their enlarged store at No. 2230 Olive street, under the management of Mr. O. O. Petty.

A fire which started in the basement of Oliver R. Howe's rubber goods store at No. 52 Central square, Lynn, Massachusetts, on the morning of April 26, damaged the building and caused other losses to the amount of \$13,000.

Work was to begin at the plant of the new Converse Rubber Shoe Co. (Malden, Massachusetts) on the morning of April 26. The grinding room was to open on that day and the cutting, shoe, and packing rooms in the usual order thereafter. The present plant has a capacity of 4,000 pairs of

shoes daily. The principal office of the company is at Malden, and a sample room will be maintained at No. 50 High street, Boston.

A new store at Holyoke, Massachusetts, is that of The Yoerg Tire and Rubber Co., at No. 496 Dwight street. The firm embraces William P. Yoerg, sometime salesman at the mechanical goods department of the Boston branch of The Diamond Rubber Co., and Joseph M. Hetzer, who has had to do with the Diamond company's tire selling branch in New York City. The new company will market Diamond products in western Massachusetts.

The Oneida Rubber Co., of which Edwin J. Holstein is proprietor, have opened a store in Hartford, Connecticut, at No. 1076 Main street, for the sale of tires of all kinds, and the rubber goods generally carried in a retail store.

Empire Automobile Tire Co. (Trenton, New Jersey) have built an addition to their factory lately which will enable them to very greatly increase their capacity, which has, until this time, been crowded to the extreme limit.



THE B. F. GOODRICH CO., OF NEW YORK.

[New premises, Nos. 1776-1778 Broadway, at Fifty-seventh street. The Broadway front appears at the left of the picture.]

NEW RUBBER TIRE FACTORY.

A new product in the line of automobile accessories is the McGraw-Burgess vertical fabric tire, for the manufacture of which a company has been incorporated at Pittsburgh, Pennsylvania, under the style The McGraw-Burgess Vertical Fabric Tire Co., with \$100,000 capital, stated to be all paid in. The company are erecting at East Palestine, Ohio—which is not far west from Pittsburgh—a plant, the principal building of which is to be 250 x 50 feet, two stories, of brick, iron and cement construction. The company state that they expect to be in full operation by the middle of June. The rubber machinery equipment of the company is being supplied by the Farrel foundry. The officers of the company are: E. C. McGraw, proprietor of the American House at Pittsburgh, president; R. W. McGraw, vice president; H. G. Morgan, treasurer, and Hartley Howard, secretary. William L. Burgess will be sales manager. The offices are at Grant boulevard and Thirty-third street.

A CROCKER STORE ANNIVERSARY.

For thirty-three years the Hope Rubber Co. has been one of the leading rubber stores not only in Providence, Rhode Island, but in New England. Commemorating its thirty-third anniversary there was held an opening on May 1, at which time the public viewed a beautifully decorated store twice the size of the old one. In other words, the floor space was doubled so that there is now 12,000 square feet in use. The opening began with a musical programme from 2 until 5 p. m., at which time a luncheon was given to seventy-five invited guests. Another musical programme was given in the evening. The opening was largely attended and Mr. Isaac Crocker, the proprietor, was warmly congratulated upon the growth of the business of which he is the head.

PRESENTATION TO MR. FOSTER.

On the evening of April 6 the selling force connected with the New York branch of the Boston Woven Hose and Rubber Co. honored their retiring manager, Mr. Wallace F. Foster [see THE INDIA RUBBER WORLD, April 1—page 262], with a farewell supper at Kalil's, on Park row, and presented him with a silver loving cup bearing the names of those present: Messrs. Frederick L. McCarty, Charles W. Hobart, George L. Harrington, and Charles E. McLaughlin, the presentation speech being made in a happy manner of Mr. McCarty. Mr. Foster had been at the New York office for nine years, after having been connected with the company in Boston.

CONDITION OF PLANTATION "RUBIO" IN MEXICO.

THE Tehuantepec Rubber Culture Co. (New York) have published the report of the annual inspection report of their Plantation Rubio in Mexico, made by Mr. Frank K. Hogue, of Toledo, Ohio. This report, made by one of the investors in the company, chosen for the purpose by the whole body of investors, is of interest as showing the condition of the rubber plantation as compared with the showing made by the official inspectors in former years, a satisfactory degree of progress being indicated. The pamphlet contains also a special expert on the Rubio plantation by Mr. James C. Harvey, a private planter of rubber in Mexico, whose name is familiar to readers of THE INDIA RUBBER WORLD. The point of chief interest in Mr. Harvey's report is his commendation of the policy adopted at Rubio, under the management of Superintendent Luter, of permitting a certain amount of undergrowth between the trees, instead of clean weeding. This policy, by the way, is being regarded favorably by many planters in Ceylon and Malaya. Mr. Harvey writes:

"I was agreeably surprised to find the major portions of the plantings quite free from grasses, and in other instances grasses well under way towards extermination, owing to the intelligent encouragement given to what are technically known as 'soil preservers,' or soft growth which rises some distance above the grasses, gradually shading them out and restoring humus and nitrogen to the soil. The importance of these agencies cannot be overestimated; they are vital to the well-being of *Castilloa*."

NEW INCORPORATIONS.

THE Pennsylvania Rubber Co., of Michigan, April 2, 1909, under the laws of Michigan; capital \$10,000. To carry on the business in the state named of the Pennsylvania Rubber Co. (Jeanette, Pa.). Incorporators: Seward E. Andrews, George G. Weidner and C. W. Moody. Offices at Detroit, Mich.

Barrell Pneumatic Tire Protector Co., April 14, 1909, under the laws of Massachusetts; capital \$50,000. Incorporators: Arthur E. Carson, Bedford, Mass.; Robert H. Kammler, Boston, and Horace A. Crossman, Cambridge, Mass.

Victor Tire Traction Co., April 14, 1909, under the laws of Massachusetts; capital, \$50,000. Incorporators the same as for the Barrell Pneumatic Tire Protector Co.

Dreadnaught Tire Co., March 23, 1909, under the laws of New Jersey; capital \$2,000. Incorporators: Stewart Browne and George W. Harris, No. 170 Broadway, New York, and William Lee Hoskins, Glenbrook, Connecticut.

Dixon Cable System Co., March 30, 1909, under the laws of New Jersey; capital authorized, \$300,000. Incorporators: H. O. Coughlan, B. F. Mantz and John R. Turner, all giving No. 15 Exchange place, Jersey City, as their address.

E. F. Smith Co., April 20, 1909, under the laws of Connecticut; capital \$50,000. To manufacture and deal in goods of metal, rubber and other materials. Incorporators: Edwin F. Smith, Frank H. Smith and Harriet S. Smith, all of Naugatuck, Conn.

The General Manufacturing Co., of Waterbury, April 17, 1909, under the laws of Connecticut; capital \$10,000. To manufacture goods of metal, rubber and other materials. Incorporators: John Draher, Max Kiessling and Charles F. Probst, all of Waterbury, Conn.

Elwell Rubber Manufacturing Co., April 9, 1909, under the laws of New York; capital, \$15,000. Incorporators: Russell T. Elwell, Carson City, Nevada; Henry Smith, Paterson, New Jersey; Isidore L. Broadwin, No. 41 Park Row, New York. Elwell has been identified with the rubber industry for years, principally in New England. The office of the new company is to be in New York City.

Akron Tire and Vulcanizing Co., March 27, 1909, under the laws of Illinois; capital, \$2,500. Incorporators: Samuel Berkowitz, Frank B. Grover, and Walter H. Eckert. Papers filed by Frank R. Grover, attorney, No. 79 Dearborn street, Chicago.

TRADE NEWS NOTES.

THE Firestone Tire and Rubber Co. have an affidavit made by A. Goyert, of Greenburg, Indiana, stating that on a truck used by him two rear tires gave 25,200 miles of service each, and the front tires 31,000 miles, every one of the set having traveled enough road to encircle the world. The tires were of Firestone make.

The Republic Rubber Co., of New York, in view of their growing tire trade in New England, have opened an office in Boston, at No. 735 Boylston street.

The New Haven Rubber Repair Works (No. 481 State street, New Haven, Connecticut) have been bought by J. S. Byron and H. W. Neely, who have renovated and enlarged the shop and placed it under the management of J. W. Hartley, a capable tire man of Hartford.

The Leather Tire Goods Co. are removing their factory from Newton Upper Falls, Massachusetts, to Niagara Falls, New York, where the entire business, manufacturing and sales, will be concentrated from May 1.

The Faultless Rubber Co. (Ashland, Ohio) announce the removal of their New York office from West Fourth street to No. 101 Fifth avenue.

The Vant Woud Rubber Co. (New York), in view of the steady increase of their business, have removed their store to Nos. 109-111 Worth street, which is near Broadway and likewise to a subway station.

B. Loewenthal & Co., scrap rubber merchants in New York and Chicago, announce the opening of a branch office at Akron, Ohio.

PERSONAL MENTION.

MR. HEINRICH OTTO TRAUN of Hamburg, Germany, was a welcome visitor to the offices of THE INDIA RUBBER WORLD, while in the United States during the past month. Mr. Traun is the son of Senator Dr. Traun, the founder of Dr. Heinrich Traun & Söhne (formerly Harburger Gummi-Kamm Co.). The head of the family having retired from active connection with the business, its control passed to his sons, and since the lamented death of the elder, Dr. Frederick Traun, the actual head has been the gentleman who has just been renewing in America the friendships and acquaintances which date from 1894, when he became connected with a New York house for a while in order to study business conditions in America.

MILLER—MYERS.

THE wedding of Mr. Thomas William Miller and Miss Helen Adelaide Myers, at Ashland, Ohio, on March 31, was the social event of the season in that part of the state. The bride is the daughter of Mr. and Mrs. Francis E. Myers, at whose home the ceremony occurred at noon. Mr. Miller, as the whole rubber trade knows, is the president of The Faultless Rubber Co., of Ashland, one of the principal industrial establishments in that town. The bridal pair went to the Pacific coast, and expect to be at home in Ashland, in a residence which is Mr. Miller's gift to his bride, by June 1. Prior to the wedding a bachelor dinner, given in honor of the prospective bridegroom at the Hotel Otter, was attended by the leading business and professional men of Akron (where Mr. Miller formerly lived) and Ashland, together with several guests from a distance.

CHANGES OF ADDRESS.

THE firm of Parker, Stearns & Co., rubber manufacturers, so long established in New York, and now occupying the new factory in Brooklyn illustrated in THE INDIA RUBBER WORLD, September 1, 1908 (page 415), announce the removal of their offices to the new location—Nos. 286-300 Sheffield avenue, Brooklyn, New York.

U. S. Rubber Reclaiming Works (New York), have removed their offices from Duane street to No. 277 Broadway (Broadway-Chambers building).

TRADE NEWS NOTES.

THE Electrical Insulating and Specialty Co. is mentioned as having been organized at Cleveland, Ohio, where a factory will be erected for making a new substitute for rubber, for electrical and other purposes. Charles C. Clark is president of the concern.

Mr. A. R. Duryee, for many years superintendent of Alfred Calmon's Asbest-und Gummiwerke in Hamburg, sailed for the United States late in March. He expects to spend about a month in Virginia and will later visit the rubber centers of the United States.

Mr. J. H. Stedman, of J. H. Stedman & Co., Inc., in the waste rubber trade, has been elected vice president of the Trade Club of Boston.

The largest office calendar which has come to THE INDIA RUBBER WORLD at any time is issued by the Dunlop Tire and Rubber Goods Co., Limited (Toronto). There is a detachable sheet for each month in the year, the figures on which can be read across the street, but even more space is devoted to excellent photogravures of the head office and the factory buildings of this enterprising company.

A RECENT German patent (No. 198,979), issued to Friedrich Wiechard, of Hanover, relates to a novel method of attaching a solid rubber tire. The shape of the tire is also unusual, as will appear from the accompanying illustrations. Figure 1 shows a section of the felly and of the tire, indicating also the means by which the tire is held within the flanges of the rim. Figure 2 shows the tire and its appurtenances separated, including the details of the screw arrangement which binds the flanges to the felly.

A SIDE LIGHT ON THE TIRE TRADE.

DEVELOPMENT in the automobile industry in whatever branch, we take it, presages good for the rubber tire industry. The more automobiles that are made, and the more kinds of automobiles, the greater will be the improvement in the various details of the automobile manufacture, including the appliances and machinery employed. And the greater will be the economy of production, the cheaper these vehicles will become and the greater the number sold. All of which means an increased demand for tires, with the logical result, by the same token—and better tires at a lower cost than now.

These reflections are suggested by the progress made in France in the manufacture of automobiles for agricultural use—for plowing land, keeping crops in condition, harvesting, hauling to market, etc. Plows, harrows, reaping machines and what not can now be operated with the use of gasoline motors instead of horses. An international congress is to be held at Amiens in July for the promotion of the "agricultural automobile" and its applications, in connection with which will be an exhibition of appliances. An exposition devoted to the same interest was held at Brussels in April, and another, on a larger scale, occurs this month at Antwerp. In Paris a periodical devoted to the new interest, *l'Automobile Agricole*, soon will complete its second year. If there is merit in the new departure in agriculture, it is not likely to remain unknown in other countries than those named here.

Of course plows, harvesters, and the like, and particularly stationary engines for farm use operated by motors on the same principle as is employed in automobiles, will not directly widen the demand for rubber tires. But as has been said above, their manufacture tends to the development of the automobile industry, and it can hardly fail to happen that one result will be an increased demand for motor vehicles that do require tires. One point to be made that the agricultural automobile will tend to lessen the number of horses and accustom the world to do without horses, and this alone will promote the use of the automobile as a passenger vehicle—on farms, where so large a proportion of the world's population lives—as well as in cities.

At a special meeting of shareholders in Cie. du Caoutchouc Monopole du Portugal (Brussels, March 31) a resolution was adopted to go into liquidation, with a view to reorganizing the business by forming a new company, with 700,000 francs capital. Paul Wauvermans was named as liquidator. The company was formed in Belgium March 5, 1898, with the exclusive privilege of manufacturing rubber goods in Portugal for ten years, and with 1,000,000 francs [= \$193,000] capital. A factory was established near Lisbon, and for awhile the results were satisfactory, but for several years past there have been no profits.

THE development of aerial navigation has led to great activity in the rubber industry in the production of rubberized fabrics for balloons, aeroplanes and the like. Already THE INDIA RUBBER WORLD has mentioned at length the production of such fabrics by Continental Caoutchouc and Gutta-percha-Compagnie, of Hanover. Three other German rubber factories may now be mentioned as having engaged in a practical way in making goods of this class: Etablissements Hutchinson, at Mannheim; Franz Clouth, Rheinisch Gummiwaren-Fabrik m. b. H., at Cologne; and Aktiengesellschaft Metzeller & Co., at Munich.

THE accounts of Mitfeldeutsche Gumminaren-Fabrik Louis Peter, A.-G. (Frankfort o/ M.) show a net profit for the business year 1907-08 of 1,200,031 marks [= \$285,607.38], against 806,223 marks in the preceding year. The dividend was 22 per cent., against 16 per cent. the year before. The capital of the company is 3,000,000 marks. Solid tires had a good sale during the year, and large contracts are in hand for future business.

Review of the Crude Rubber Market.

THE prices of Pará grades have advanced very materially during the month past, as will be apparent from the comparative statement which appears on this page. The same rate of increase does not apply to other classes of rubber; in fact, most grades of Africans have not shown an advance during the month. Higher prices are quoted, however, for Centrals and Assam and allied grades. Eastern plantation has advanced in keeping with Pará qualities.

The extreme low price for the past year of Pará rubber appears to have led to liberal buying by consumers in the various markets, so that larger than normal "invisible supplies" resulted, and for a while this condition interfered with the free selling of rubber, but to-day, in spite of the larger production in the Amazon region than the average, prices continue to mount upward. In other pages of THE INDIA RUBBER WORLD this month appear several articles bearing upon the general situation which point to a deliberate effort in the Amazon region to demand a higher return for rubber than has prevailed at times of late, the same being designated as the "valorization" of rubber. The United States consul at Pará, in a report issued from Washington under the date of April 19, spoke of indications that rubber was being held in his district at 7 milreis per kilogram or higher for fine rubber, and the latest telegraphic advices noted on this page point to quotations at Manãos of 7¼ milreis. Without going into details as to what selling price in New York or in Europe such quotations would point to, it may be said that at current rates of exchange 7½ milreis per kilogram is equivalent to a fraction over \$1 per pound. The consul quoted refers to 7 milreis as meaning \$1.28 per pound in New York.

It may be of interest to note that just one year ago our advices from Manãos quoted fine rubber at 4.8 milreis per kilogram, and by comparing the dollar price on this page with that on the same date in 1908 our readers will be able to estimate the effect of an advance at Manãos in quotations from 4.8 to 7¼ milreis. It is too early yet to estimate the probable effect of the new movement in Amazon centers, but undoubtedly the movement has such strength that it must have consideration in dealing with rubber price conditions.

The receipt at Manãos have been singularly uniform during the past three crop years, from the first of July to the current date; so far as "Pará rubber" is concerned—slightly over 18,000 tons in each season to March 31. More caucho has been coming forward, however, in each season, so that the total of all grades has advanced from 21,875 tons on March 31, 1907, to 23,131 tons on the same date this year. The largest arrival at Pará of all grades to May 1 in any crop year was 33,900 tons in 1907. The receipts were considerably less in the following year, but up to April 19 in the current season the total already had reached 32,370 tons. It is not only possible, but probable, that the current crop will be larger than in any previous other twelve months. It is clear, therefore, that the higher prices quoted to-day in New York and Europe are in spite of an increased production on the Amazon. Besides, there must be taken into account the considerable accumulation of rubber by manufacturers bought during last year's low prices, as already mentioned.

An important member of the crude rubber trade suggests that a very important factor in the market has been the large production of rubber tires during the busy season in this line which lately has been experienced, and he regards no other one point as having a more important bearing upon this market than the volume of automobile tires now held unsold. Beginning with the first of the past month the rubber footwear industry became very active, and all the factories in this branch are working at what is considered an approach to a normal rate.

The activity of the tire industry continues, as is indicated by the statement in another column that in a single city more than 2,000 employes have been put to work on tires since the beginning of this year. It is less easy to estimate the condition of the production in other branches of the rubber manufactured just now.

Following are quotations at New York for Pará grades, one year ago, one month ago, and April 29—the current date:

PARÁ.	May 1, '08.	Apr. 1, '09.	Apr. 29.
Islands, fine, new.....	79@80	119 @120	123@124
Islands, fine, old.....	none here	121 @122	124@125
Upriver, fine, new.....	83@84	122 @123	126@127
Upriver, fine, old.....	85@86	125 @126	128@129
Islands, coarse, new.....	43@44	57 @58	58@59
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	58@59	94 @95	95@96
Upriver, coarse, old.....	none here	none here	none here
Cametá .....	.....	63 1/2 @ 64	68@69
Caucho (Peruvian), ball.	45@46	83 @84	84@85
Caucho (Peruvian), sheet	56@57	73 @74	76@77
Ceylon (Plantation), fine sheet	87@88	129 @130	132@133

AFRICAN.

Lopori ball, prime....	108@109	Massai, red	95@96
Lopori strip, prime... —@—		Soudan niggers	85@86
Aruwima	94@95	Cameroon ball	64@65
Upper Congo ball, red.	96@100	Benguela	59@60
Ikelemba	@ —	Madagascar, pinky	90@91
Sierra Leone, 1st quality	95@96	Accra flake	21@22

CENTRALS.

Esmeralda, sausage ...	81@82	Mexican, scrap	80@81
Guayaquil, strip	71@72	Mexican, slab	58@59
Nicaragua, scrap	79@80	Mangabeira, sheet	53@54
Panama	63@64	Guayule	32@33

EAST INDIAN.

Assam	92 @93	Borneo	35@45
Pontianak	43@44		

Late Pará cables quote:

Per Kilo.

Islands, fine	6\$100
Islands, coarse	2\$500

Per Kilo.

Upriver, fine	7\$000
Upriver, coarse	5\$000
Exchange	15 3/16d.

Latest Manãos advices:

Upriver, fine	7\$250
Upriver, coarse	5\$250

Exchange

15 7/32d.

NEW YORK RUBBER PRICES FOR MARCH (NEW RUBBER).

	1909.	1908.	1907.
Upriver, fine	1.22@1.26	.76@.83	1.16 @ 1.21
Upriver, coarse .....	.93@.97	.48 @.59	.92 @ .96
Islands, fine	1.18@1.21	.68 @.83	1.14 @ 1.19
Islands, coarse .....	.55@.61	.41 @.43	.66 @ .70
Cametá .....	.63 @.67	.41 @.48	.71 @ .73

LIGHTER LONDON 'BUSES AND TIRES.

A MATTER of no little importance to the rubber tire trade is involved in the new regulations in the city of London regarding the use of motor 'buses. The heavy, noisy vehicles now running are to be replaced by lighter and quieter ones, with a smaller carrying capacity. This change is by order of the chief commissioner of police, who is at the head of the commission controlling the licensing of the omnibuses. London has always resented the presence of these noisy, ill smelling and cumbersome vehicles among the light hansoms and four-wheeled cabs and the quiet 'buses drawn by horses. Not even the speed of the motor 'bus reconciled the Londoner to their existence. The regulations of the license given in 1906 are to be cancelled and motor 'buses must now be built of a weight not exceeding 3½ tons. One drawback to the profitable operation of the heavy 'buses has been the heavy cost of wear and tear of tires, which will be greatly diminished with the use of lighter vehicles.

In regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street, New York), advises as follows: "During April the demand for paper has continued good, rates ruling at $4\frac{1}{2}$ @ $4\frac{3}{4}$ per cent. for the best rubber names, and 5 @ $5\frac{1}{2}$ per cent. for those not so well known."

Rubber Receipts at Manaos.

DURING March and eight months of the crop season for three years, [courtesy of Messrs. Scholz & Co.]:

	1909.	MARCH 1908.	1907.	JULY MARCH 1907-'9.	1907-'8.	1906-'7.
Rio Para-Açu.....	533	938	292	7,866	8,129	7,246
Rio Madeira.....	309	288	292	2,794	2,596	2,955
Rio Juruá.....	578	345	1,071	3,686	3,389	3,762
Rio Javary-Lambert.....	162	59	77	2,318	2,424	2,696
Rio Solimões.....	77	41	74	945	1,078	856
Rio Negro.....	93	97	69	483	441	520
Total.....	1,752	1,738	3,705	18,092	18,057	18,040
Cauch.....	997	1,067	1,108	5,039	4,647	3,835
Total.....	2,749	2,805	4,813	23,131	22,704	21,875

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for carload lots, per pound—show practically no change since last month:

Old rubber boots and shoes—domestic.....	8 $\frac{3}{4}$ @ 8 $\frac{3}{4}$
Old rubber boots and shoes—foreign.....	8 $\frac{1}{2}$ @ 8 $\frac{5}{8}$
Pneumatic bicycle tires.....	5 $\frac{1}{2}$ @ 6
Automobile tires.....	5 $\frac{1}{2}$ @ 6
Solid rubber wagon and carriage tires.....	7 @ 7 $\frac{1}{2}$
White trimmed rubber.....	9 $\frac{1}{2}$ @ 10
Heavy black rubber.....	5 @ 5 $\frac{1}{4}$
Air brake hose.....	3 $\frac{1}{2}$ @ 3 $\frac{3}{4}$
Garden hose.....	2 @ 2 $\frac{1}{8}$
Fire and large hose.....	2 $\frac{3}{4}$ @ 3
Matting.....	1 $\frac{1}{4}$ @ 1 $\frac{1}{2}$

PARA RUBBER VIA EUROPE.

	POUNDS.	MARCH 26.—By the Adriatic—London:
Poel & Arnold (Coarse).....	9,000	
MARCH 29. By the <i>Albania</i> —Mollendo:		
W. R. Grace & Co. (Cauch).....	8,000	
APRIL 5. By the <i>Celtic</i> —Liverpool:		
Livesey & Co. (Coarse).....	22,500	
APRIL 7.—By the <i>Maraval</i> —Bolívar:		
American Trading Co. (Fine).....	5,500	
American Trading Co. (Coarse).....	2,500	8,000
APRIL 14.—By the <i>Magdalena</i> —Mollendo:		
New York Commercial Co. (Fine).....	3,500	
APRIL 13.—By the <i>Kroonland</i> —Antwerp:		
W. L. Gough Co. (Fine).....	2,500	
APRIL 16. By the <i>President Grant</i> —Hamburg:		
George A. Alden & Co. (Fine).....	3,500	
APRIL 19.—By the <i>Baltic</i> —Liverpool:		
Livesey & Co. (Coarse).....	22,500	
APRIL 20. By the <i>Minneapolis</i> —London:		
General Rubber Co. (Coarse).....	45,000	

OTHER NEW YORK ARRIVALS.

CENTRALS.

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

	POUNDS.	MARCH 26.—By El Monte—New Orleans:
Eggers & Heinlein.....	3,000	
G. Amsinck & Co.....	3,000	
A. N. Rotholz.....	4,000	
A. T. Morse & Co.....	2,500	
Luzarte & Whitney.....	1,000	13,500
MARCH 26.—By El Rio—Galveston:		
Continental-Mex. Rubber Co....	*75,000	
For Canada.....	*7,500	*82,500
MARCH 27. —By the <i>Monterey</i> —Frontera:		
Harburger & Stack.....	8,000	
E. Steiger & Co.....	5,500	
E. N. Tibbals & Co.....	3,000	
H. Marquardt & Co.....	1,000	
Graham Hinkley Co.....	1,500	
General Export & Com. Co....	1,000	20,000

Rubber Imports at Riga.

In *Gummi-Zeitung* appear the following figures, indicating, in round figures, the quantity of crude rubber imported annually at the port of Riga, which does not, of course, embrace the whole imports for Russia:

In 1902.....	pounds.	3,744,000
In 1903.....		5,220,000
In 1904.....		3,924,000
In 1905.....		4,536,000
In 1906.....		6,096,000
In 1907.....		5,076,000

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

APRIL 6.—By the steamer *Dominic*, from Manaos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauch.	Total.
Poel & Arnold.....	186,400	45,200	96,800	90,400=	418,800
A. T. Morse & Co.....	203,600	45,300	40,500	67,200=	356,600
New York Commercial Co.	26,400	7,200	80,600	64,000=	178,200
Hagemeyer & Brunn.....	56,100	1,400	35,700	12,500=	105,700
L. Hagenaers & Co.....	55,000	3,600	3,000	.....=	61,600
General Rubber Co.....	3,900	2,700	23,300	1,500=	31,400
Edmund Reeks & Co.....	3,600	300	21,800	.....=	25,700
C. P. dos Santos.....	.....	.....	.....	15,400=	15,400
G. Amsinck & Co.....	.....	.....	.....	3,000=	3,000
Total.....	535,000	105,700	301,700	254,000=	1,196,400

APRIL 6.—By the steamer *Cearense*, from Manaos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauch.	Total.
New York Commercial Co.	208,900	67,000	138,900	215,500=	720,300
Poel & Arnold.....	132,100	13,800	140,100	82,300=	374,300
A. T. Morse & Co.....	164,200	34,000	119,400	25,500=	343,100
G. Amsinck & Co.....	83,000	16,800	4,800	.....=	104,600
C. P. dos Santos.....	24,300	9,300	18,500	40,800=	92,900
Hagemeyer & Brunn.....	17,500	.....	53,500	.....=	71,000
General Rubber Co.....	8,400	2,600	5,500	32,900=	49,400
Edmund Reeks & Co.....	4,600	.....	10,500	.....=	15,100
Total.....	733,000	143,500	497,200	397,000=	1,770,700

APRIL 5.—By the *Brazos*—Galveston:

For Canada.....	*15,000
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APRIL 5.—By the *Comus*—New Orleans:

A. T. Morse & Co.....	3,500
Manhattan Rubber Mfg. Co..	2,500
Eggers & Heinlein.....	1,000
G. Amsinck & Co.....	1,000
Total.....	8,000

APRIL 6.—By the *Norse Prince*—Bahia:

A. Hirsch & Co.....	11,000
J. H. Rosbach & Bros.....	2,500
Total.....	13,500

APRIL 7.—By the *El Mar*—Galveston:

Continental-Mexican Rubber Co.....	*265,000
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APRIL 8.—By the *Panama*—Colon:

Piza Nephews Co.....	4,000
G. Amsinck & Co.....	1,000
Mecke & Co.....	1,000
American Trading Co.....	1,000
Wessels, Kulemkamp Co.....	1,000
Brandon & Bros.....	1,000
Total.....	9,000

APRIL 9.—By the *Dorado*—New Orleans:

A. T. Morse & Co.....	3,000
Manhattan Rubber Mfg. Co..	1,500
A. N. Rotholz.....	1,000
Total.....	5,500

APRIL 9.—By the *Prins Frederick*—Colombia:

Kunhardt & Co.....	7,000
Maitland, Coppell & Co.....	4,000
J. A. Pauli & Co.....	2,000
Roldau & Van Sickle.....	1,000
Total.....	14,000

APRIL 10.—By the *Esperanza*—Frontera:

Harburger & Stack.....	7,000
E. Steiger & Co.....	7,000
General Export & Com. Co....	3,000
E. N. Tibbals & Co.....	2,000
H. Marquardt & Co.....	2,000
A. Rosenthal Sons.....	1,000
Total.....	22,000

APRIL 12. By the *Pumari*—Tampico:

Ed. Maurer.....	*85,000
Poel & Arnold.....	*15,000
For Akron, Ohio.....	*40,000
Total.....	*140,000

APRIL 13.—By the *Georgic*—Liverpool:

A. Hirsch & Co.....	17,500
---------------------	--------

APRIL 12.—By the *El Sud*—Galveston:

Cont-Mexican Rubber Co.....	*110,000
For Canada.....	*9,000
Total.....	*119,000

APRIL 14.—By the *Magdalena*—Colombia:.....

Kunhardt & Co.....	3,500
West Coast Rubber Co.....	1,000
Eggers & Heinlein.....	1,500
Total.....	6,000

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No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

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POUNDS.			POUNDS.			POUNDS.		
APRIL 15. By the <i>Sardinia</i> =Greytown:			APRIL 7. By the <i>Zeland</i> =Antwerp:			APRIL 13. By the <i>Minnehaha</i> =London:		
G. Amsinck & Co.	11,500		A. T. Morse & Co.	22,500		A. T. Morse & Co.	4,500	
Jose Julia & Co.	3,500		Robinson & Co.	4,500	27,000			
J. S. Sambrade	1,000	16,000						
APRIL 15. By the <i>Adriatic</i> =Colon:			APRIL 8. By the <i>Cleveland</i> =Hamburg:			APRIL 13. By the <i>Kramland</i> =Antwerp:		
G. Amsinck & Co.	4,000		General Rubber Co.	22,500		Poel & Arnold.	5,500	
A. Rosenthal's Sons	4,500		George A. Alden & Co.	13,500				
A. Santos & Co.	4,000		Poel & Arnold.	13,500		APRIL 16. By the <i>Atholl</i> =Singapore:		
L. Johnson & Co.	3,500		A. T. Morse & Co.	6,500		Otto Isenstein & Co.	15,000	
Demarest Bros.	3,500		Livesey & Co.	6,500		Heabler & Co.	5,500	20,500
Robbau & Van Stickle	1,000		Rubber Trading Co.	3,500	66,000			
Pablo Calvet Co.	1,000					APRIL 20. By the <i>Minneapolis</i> =London:		
M. Blanche & Co.	1,000		APRIL 8. By the <i>Caronia</i> =Liverpool:			Poel & Arnold.	5,500	
Piza Nephews Co.	1,500		George A. Alden & Co.	21,000		R. binson & Co.	3,500	9,000
Eggers & Henlein	1,500		Robinson & Co.	7,000		George A. Alden & Co.	5,000	59,000
Platane Bros.	1,000		H. A. Gould Co.	5,000	35,000			
H. Marquardt & Co.	1,000	27,500				GUTTA-JELUTONG.		
APRIL 17. By the <i>Merida</i> =Mexico:			APRIL 10. By the <i>Presidente</i> =Havre:			MARCH 25. By the <i>Munster</i> =Singapore:		
W. L. Wallergh.	2,500		George A. Alden & Co.	11,000		George A. Alden & Co.	315,000	
Graham Hinkley & Co.	2,500					Heabler & Co.	155,000	
Harburger & Stick.	1,500		APRIL 13. By the <i>Georgie</i> =Liverpool:			Poel & Arnold.	155,000	
H. Marquardt & Co.	1,000	7,500	Poel & Arnold.	44,500		W. L. Gough Co.	110,000	
			George A. Alden & Co.	9,000	59,500	D. A. Shaw & Co.	110,000	845,000
APRIL 10. By <i>El Dia</i> =Galveston:			APRIL 13. By the <i>Kramland</i> =Antwerp:			APRIL 6. By the <i>Aragonia</i> =Singapore:		
Cont-Mexican Rubber Co.	100,000		George A. Alden & Co.	70,000		Heabler & Co.	500,000	
For Canada, etc.	25,000	125,000	A. T. Morse & Co.	45,000		George A. Alden & Co.	155,000	
			Rubber Trading Co.	7,000		Poel & Arnold.	90,000	745,000
APRIL 10. By the <i>Momus</i> =New Orleans:			W. H. Stiles & Co.	6,500	128,500			
A. N. Rotholz	2,000		APRIL 15. By the <i>Toutonic</i> =Bordeaux:			APRIL 16. By the <i>Atholl</i> =Singapore:		
Manhattan Rubber Mfg. Co.	1,000	3,000	General Rubber Co.	56,000		Heabler & Co.	225,000	
						George A. Alden & Co.	90,000	
APRIL 20. By the <i>Tintoretto</i> =Bahia:			APRIL 16. By the <i>Presidente Grant</i> =Hamburg:			Poel & Arnold.	90,000	405,000
A. Hirsch & Co.	2,500		Poel & Arnold.	15,500				
J. H. Rosbach & Bros.	22,500	25,000	W. L. Gough Co.	11,500		GUTTA-PERCHA.		
			General Rubber Co.	4,500		MARCH 25. By the <i>Munster</i> =Singapore:		
APRIL 21. By the <i>Almeida</i> =Colon:			Traun Rubber Co.	4,500	36,000	Otto Isenstein & Co.	15,000	
Brandon & Bros.	5,500					George A. Alden & Co.	11,500	26,500
J. S. Sambrade	4,000		APRIL 17. By the <i>Auguste Victoria</i> =Hamburg:					
A. Santos & Co.	4,000		General Rubber Co.	22,500		APRIL 6. By the <i>Aragonia</i> =Singapore:		
Lazord Freres	5,500		George A. Alden & Co.	13,500	36,000	Heabler & Co.	22,500	
G. Amsinck & Co.	3,000					George A. Alden & Co.	22,000	44,500
Wessels, Kulemkamp Co.	1,500		APRIL 19. By the <i>Baltic</i> =Liverpool:					
Mecke & Co.	1,500		George A. Alden & Co.	35,000		APRIL 16. By the <i>Presidente Grant</i> =Hamburg:		
Luzarte & Whitney	1,500					E. Oppenheim	13,500	
United Fruit Co.	1,000		APRIL 19. By the <i>Albano</i> =Hamburg:					
A. M. Capen's Sons	1,000	28,500	W. L. Gough Co.	30,000		BALATA.		
AFRICAN.						MARCH 26. By the <i>Maracas</i> =Bolívar:		
MARCH 25. By the <i>Gothland</i> =Antwerp:			APRIL 19. By the <i>Fert</i> =Lisbon:			C. Tennant Sons & Co.	3,500	
W. H. Stiles & Co.	11,500		Poel & Arnold.	44,500		Frame & Co.	1,000	4,500
						APRIL 6. By the <i>Coppename</i> =Demerara:		
MARCH 27. By the <i>Patricia</i> =Hamburg:			APRIL 20. By the <i>Hans</i> =Lisbon:			Frame & Co.	7,000	
Livesey & Co.	20,000		General Rubber Co.	56,000		Middleton & Co.	2,500	9,500
George A. Alden & Co.	12,000	32,000						
MARCH 31. By the <i>Mesaba</i> =London:			EAST INDIAN.			APRIL 7. By the <i>Manaral</i> =Bolívar:		
Robinson & Co.	3,000		[*Denotes plantation rubber.]			C. Tennant Sons & Co.	8,000	
Rubber Import Co.	2,500	5,500	MARCH 25. By the <i>Munster</i> =Singapore:			G. Amsinck & Co.	9,000	
			George A. Alden & Co.	11,500		J. A. Paul & Co.	5,500	
APRIL 2. By the <i>Atlantic</i> =Liverpool:			Poel & Arnold.	11,500		Frame & Co.	3,500	26,000
Poel & Arnold.	67,000		W. L. Gough Co.	6,000				
Livesey & Co.	5,500		Otto Isenstein & Co.	3,000	32,000	APRIL 12. By the <i>Rotterdam</i> =Rotterdam:		
Earle Brothers	9,000					Kaule Bros.	7,000	
A. T. Morse & Co.	4,500	86,000	MARCH 26. By the <i>Adriatic</i> =London:					
			Poel & Arnold.	5,500		APRIL 20. By the <i>Surinam</i> =Demerara:		
APRIL 3. By the <i>Thornley</i> =Lisbon:						B. Williamson & Co.	2,500	
General Rubber Co.	112,000		MARCH 26. By the <i>Matappa</i> =Colombo:					
			A. T. Morse & Co.	11,500		CUSTOM HOUSE STATISTICS.		
APRIL 3. By the <i>Leopold</i> =Havre:			MARCH 29. By the <i>St. Louis</i> =London:			PART OF NEW YORK -MARCH.		
Geo. A. Alden & Co.	22,500		A. T. Morse & Co.	7,000		Imports.		
						India-rubber	Pounds.	Value.
APRIL 5. By the <i>Celtic</i> =Liverpool:			APRIL 1. By the <i>Majestic</i> =London:			6,885,685	\$5,410,985	
Robinson & Co.	12,500		Poel & Arnold.	6,500		Balata	295,848	104,276
Poel & Arnold.	6,000					Gutta-percha	40,447	8,950
George A. Alden & Co.	7,000		APRIL 6. By the <i>Aragonia</i> =Singapore:			Gutta-jelutong (Pontianak).	2,283,859	89,422
Livesey & Co.	7,000	35,500	Heabler & Co.	18,000		Total	9,595,839	\$5,973,633
						Exports.		
APRIL 5. By the <i>Arcton</i> =Hamburg:			APRIL 8. By the <i>Oceanic</i> =London:			India-rubber	249,545	\$237,492
Livesey & Co.	20,000		New York Commercial Co.	20,000		Balata	24,308	14,843
George A. Alden & Co.	11,500		Poel & Arnold.	30,000	59,000	Reclaimed rubber	19,404	22,634
General Rubber Co.	15,000							
Poel & Arnold.	5,000		APRIL 12. By the <i>St. Paul</i> =London:					
A. T. Morse & Co.	5,500	57,500	A. T. Morse & Co.	7,000				

PARA EXPORTS OF INDIA-RUBBER, MARCH, 1909 (IN KILOGRAMS).

NEW YORK.					EUROPE.					TOTAL.	
EXPORTERS.	Fine.	Medium.	Coarse.	Cauch.	TOTAL.	Fine.	Medium.	Coarse.	Cauch.	TOTAL.	TOTAL.
Gruner & Co.	113,912	19,646	67,185	62,992	263,735	160,547	44,247	46,656	57,340	308,790	572,525
R. Suarez & Co.						188,106	3,200	34,853	61,904	288,063	288,063
Adelbert H. Alden	20,230	11,059	30,000	57,348	128,198	43,164	14,615	29,900	21,525	109,204	237,402
E. Pinto Alves & Co.	22,440		35,970		58,410	34,000		67,320		101,320	159,730
J. Marques	104,488	2,653	40,775	106,822	79,738	19,720	2,380	16,130	19,140	37,370	137,108
R. O. Myers & Co.						42,856		5,854	58,187	106,427	106,427
Gordon & Co.	2,720	1,199	25,552		29,462	43,817	7,194	2,102	22,843	73,959	105,418
Guilh. Aug. Miranda Co.	8,352	1,104	35,993	20,324	65,743	15,483	5,236	4,749	306	25,565	91,308
Alves Braga & Co.						65,574	4,224	10,843	5,864	86,202	86,202
Pires, Teixeira & Co.	17,170		26,730		43,900	16,150		23,100		39,250	83,150
Leite & Co.	26,180	1,799	1,500		29,380	28,026	7,226	2,310	94	37,673	67,657
Mello & Co.						33,754	10,810	8,130	4,475	57,169	57,169
De Lagotellerie & Co.	24,466	2,017	3,962	16,304	47,649	5,100	1,835	2,332	6,290	56,939	56,939
Scholz, Hartje & Co.	24,380	179	3,960	330	6,849	1,965		41	10,470	21,810	28,656
Braga, Sobr. & Co.								4,783	8,802	13,585	13,585
Sundries	340		32,460		32,800	10,749	2,408	19,435	19,020	51,009	83,809
Itacoatiara, direct		4,055	2,643	1,079	7,777						7,777
Manaos, direct	529,109	90,059	199,799	348,147	1,137,096	319,539	86,608	88,816	393,049	885,029	2,022,125
Iquitos, direct						19,532	2,745	12,203	154,467	188,947	188,947
Total, March	786,778	134,535	486,090	523,316	1,930,728	1,044,496	193,971	378,918	846,180	2,462,665	4,393,393
Total, February	1,188,074	218,475	598,018	483,843	2,488,410	869,658	202,450	405,838	615,827	2,093,773	4,582,183
Total, January	1,039,098	218,053	606,106	324,149	2,218,506	1,321,113	154,491	365,351	775,642	2,816,507	5,035,013



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Antwerp.

RUBBER STATISTICS FOR MARCH.

DETAILS.	1909.	1908.	1907.	1906.	1905.
Stocks, Feb. 29. kilos	331,433	907,104	603,861	614,688	557,400
Arrivals in March ..	544,126	692,398	416,734	659,562	334,000
Congo sorts	410,838	587,972	358,496	521,264	266,097
Other sorts	133,288	104,426	58,238	138,298	67,903
Aggregating	875,559	1,599,502	1,020,595	1,274,250	891,400
Sales in March	279,704	462,610	295,057	632,600	567,455
Stocks, March 31.	595,855	1,136,802	725,538	941,630	323,945
Arrivals since Jan. 1.	1,128,092	1,517,809	1,332,758	1,979,490	1,281,027
Congo sorts	781,387	1,347,423	1,151,165	1,274,782	1,002,124
Other sorts	346,705	170,386	181,593	404,708	278,903
Sales since Jan. 1.	1,127,972	1,387,811	1,265,404	1,773,927	1,498,443

Antwerp.

RUBBER ARRIVALS FROM THE CONGO.

MARCH 22.—By the steamer *Leopoldville*:

Bunge & Co.	(Société Générale Africaine) kilos	82,000
Do	(Chemins de fer Grands Lacs)	7,000
Do	(Comité Spécial Katanga)	800
Do	(Société Abir)	4,400
Do	(Société Anversoise)	1,400
Do	(Comptoir Commercial Congolais)	500
Société Coloniale Anversoise.	(Belge du Haut Congo)	2,800
Do	(Cie. du Kasai)	135,300
Do	(Sud Cameroon)	16,500
L. & W. Van de Velde		3,000
Charles Dethier	(American Congo Co.)	2,000
G. & C. Kreglinger	(Lobay)	4,900
Cassart & Henrion		1,500 262,100

APRIL 13.—By the steamer *Bruxellesville*:

Bunge & Co.	(Société Générale Africaine) kilos	85,700
Do	(Société ABIR)	5,500
Do	(Comptoir Commercial Congolais)	24,000
Do	(Société Anversoise)	1,100
Do	(Chemins de fer Grands Lacs)	8,300
Société Coloniale Anversoise.	(Belge du Haut Congo)	17,600
L. & W. de Velde	(Cie du Kasai)	98,000
Do		6,000 246,200

London.

GEORGE WHITE & Co., a large brokerage firm of Fenchurch street, London, and Colombo, have established a crude rubber department with the assistance of Mr. Bryan E. Figgis, late of William Symington & Co., Limited, the European representatives of the General Rubber Co. (New York), who are very large American buyers.

Liverpool.

WILLIAM WRIGHT & Co. report [April 1]:

Fine Paré.—The spot market has been firm, owing to a shortage for this month's deliveries. The forward positions have declined fully 2d. per pound, owing to poor demand both here and in the States. American manufacturers are said to be fully stocked, which, if true, will have its due effect on prices. Trade in America is reported dull, probably partly owing to tariff revision. Whether the anticipated "boom" will take place after the settlement of the tariff remains to be seen, but we venture to think that the demands of the motor industry will prevent any "slump" in values.

United States Rubber Co.'s Shares.

TRANSACTIONS on the New York Stock Exchange for nine weeks, ending April 24:

COMMON STOCK.

Week Feb. 27	Sales 2,400 shares	High 29 ³ / ₄	Low 27
Week Mar. 6	Sales 330 shares	High 30	Low 29 ¹ / ₂
Week Mar. 13	Sales 100 shares	High 29 ¹ / ₈	Low 29 ¹ / ₈
Week Mar. 20	Sales 200 shares	High 30	Low 29 ¹ / ₂
Week Mar. 27	Sales — shares	High —	Low —
Week April 3	Sales 3,400 shares	High 33	Low 30 ¹ / ₄
Week April 10	Sales 1,610 shares	High 31 ¹ / ₂	Low 31
Week April 17	Sales 6,400 shares	High 33 ¹ / ₄	Low 31 ¹ / ₄
Week April 24	Sales 7,825 shares	High 35	Low 32 ⁵ / ₈

For the year—High, 35, April 20; Low, 27, Feb. 24.
Last year—High, 37¹/₂; Low, 17¹/₂.

FIRST PREFERRED STOCK.

Week Feb. 27	Sales 3,293 shares	High 102 ¹ / ₂	Low 100
Week Mar. 6	Sales 750 shares	High 103	Low 102
Week Mar. 13	Sales 500 shares	High 103	Low 102 ¹ / ₄
Week Mar. 20	Sales 610 shares	High 103 ¹ / ₂	Low 103 ¹ / ₈
Week Mar. 27	Sales 1,020 shares	High 104	Low 103 ¹ / ₄
Week April 3	Sales 4,736 shares	High 104 ¹ / ₂	Low 103 ¹ / ₂
Week April 10	Sales 2,425 shares	High 105 ¹ / ₂	Low 104
Week April 17	Sales 6,750 shares	High 105 ⁷ / ₈	Low 102 ¹ / ₄
Week April 24	Sales 3,463 shares	High 104 ⁷ / ₈	Low 103 ¹ / ₂

For the year—High, 107, Jan. 12; Low, 98, Jan. 29.
Last year—High, 108; Low, 76.

SECOND PREFERRED STOCK.

Week Feb. 27	Sales 110 shares	High 67 ¹ / ₂	Low 67 ¹ / ₄
Week Mar. 6	Sales — shares	High —	Low —
Week Mar. 13	Sales — shares	High —	Low —
Week Mar. 20	Sales 100 shares	High 69	Low 60
Week Mar. 27	Sales — shares	High —	Low —
Week April 3	Sales 1,010 shares	High 70 ⁷ / ₈	Low 70
Week April 10	Sales 900 shares	High 72	Low 70 ³ / ₄
Week April 17	Sales 1,324 shares	High 72	Low 70 ¹ / ₄
Week April 24	Sales 150 shares	High 68 ¹ / ₄	Low 68 ¹ / ₄

For the year—High, 73¹/₄, Jan. 5; Low, 67¹/₂, Feb. 25.
Last year—High, 75¹/₂; Low, 42.

THERE IS NO BETTER WAY

to practice economy than to use proper materials and supplies. Chemical analysis will show you if they are right.

FRED'K J. MAYWALD, F. C. S.
CONSULTING CHEMIST,
9 Pine St. Phone, 523 John. New York City.

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NOT A
"Cravenette"
RAIN COAT

UNLESS THIS CIRCULAR
REGISTERED TRADE-
MARK IS STAMPED ON
THE INSIDE.



INDIA RUBBER WORLD

CAOUTCHOUC
HEVEA BRASILIENSIS
GUTTA-PERCHA
PACHYRHOZUS GUTTA

Edited by HENRY C. PEARSON—Offices, No. 395 Broadway, NEW YORK.

Vol. XL. No. 3.

JUNE 1, 1909.

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THE BUSINESS SITUATION.

THE recent sharp advance in crude rubber, practically equalling the record prices of the past, cannot be considered due to any decline in the world's net production at this time. It certainly cannot be held due to any falling off of the output from the Amazon regions. It is not impossible that it may have been stimulated to some degree by the efforts of rubber syndicates organized under Brazilian laws, to which reference has been made recently in these pages. Direct evidence of this, however, remains to be gained. This advance is more notable in that it follows so closely the very exceptional decline of a little more than a year ago. It is probable that the condition of the market is the result as much as anything else of indications of an improvement in the rubber industry everywhere.

So far as the United States is concerned, the status of the tariff discussions at Washington has remained apparently unchanged during the past month, but opinion is general that very shortly a conclusion will be reached and that this temporary obstacle to business activity will have lost its effect. Whether the provisions of the "Payne bill" or of the "Aldrich substitute" shall most fully characterize the new tariff act,

it is certain that the country will be saved, and the feeling seems widespread that the industries of the country will shortly be found very much more active than for some time past. In that event there would be plenty of work for the rubber factories, for it is apparent that from the beginning of the late financial crisis many important buyers of rubber goods have been out of the market to a greater or lesser extent. Railroad and mining interests cannot refrain from buying rubber indefinitely, which is one of the facts that doubtless have had an influence in the recent upward movement of crude rubber prices.

It may be mentioned incidentally that the number of new rubber factories recently formed or planned in the United States is in itself an evidence of increasing optimism, while in the same class of news is the tendency of many of the old concerns to enlarge their facilities.

FACTORY COSTS AND PROFITS.

WHEN the directors of a rubber manufacturing company, in reporting to their shareholders a decline in sales within a year of \$9,971,074.62, can point at the same time to an increase in the total operating profits of 25 per cent., with no decrease in the rate of dividends, the situation would seem to justify some comment—part of which is intended to be of interest to the rubber planters.

The "operating profits" in this case include what remains of the company's revenue after deducting actual manufacturing costs, and also freight, taxes, insurance, and general selling expenses, but not interest or deductions for bad debts. Of course the heavy outlay for raw materials is included in manufacturing costs. It happens, in this case, that the report referred to covers a year in which was witnessed an exceptionally low range of crude rubber prices. It is possible that a large amount of the rubber used during the year was purchased at lower prices than had prevailed at any time since 1902, and that the larger operating profits were due in good part to the comparatively low cost of rubber.

The company under review did not, however, reduce the prices of products on account of cheaper rubber, as some other concerns in the industry are known to have done, evidently considering the cost of Pará grades in 1908 to have been abnormally low. If such was their conclusion it is proved to have been justified, since at this writing rubber is quoted at prices only a cent or two lower than at the highest prices ever reached—for a short period in 1905. Those concerns which did reduce their selling prices on account of the "slump" in rubber last year will doubtless find it much harder to revise their lists upward than it was to revise them downward.

There are people in the trade who evidently consider the cost of rubber a sufficient guide to fixing of

prices for rubber goods—the latter to go up or down automatically with the former. That this is not practicable, however, is true, if for no other reason than that rubber goods do not go into consumption at any fixed interval after the purchase of raw materials. At the moment when rubber may be purchased at the lowest cost of the year, a manufacturer may be putting into goods material for which he has paid extreme high prices, and so on. It is a safer plan, therefore, for a manufacturer to seek, as far as possible, a uniform price for his products, rather than to disturb the trade by adding something should rubber rise inordinately or taking off something when the price goes below normal.

It may be added that a study of crude rubber prices for several years past, compared with the profits stated by the rubber company report before us, fails to reveal any connection whatever. We have compiled the following figures indicating the percentage, in each of eight years, of operating profits as compared with the total of sales:

1902.....	2.2 per cent.	1906.....	14.9 per cent.
1903.....	8.9 per cent.	1907.....	11.7 per cent.
1904.....	7.8 per cent.	1908.....	10.7 per cent.
1905.....	15.2 per cent.	1909.....	17.6 per cent.

Crude rubber was exceptionally low in 1902, the year in which the smallest rate of profit was reported, and at the highest level on record in 1905, when the rate of profit was the highest for any year with one exception. Certainly the price of rubber was not the controlling factor. By the way, there is a heavy outlay for other raw materials than rubber, and the cost of all those would have to be studied in a full analysis of factory profits—but that would be beyond the scope of this article.

There is also to be considered the possibility that improvements and economies have been introduced in the rubber manufacture, such as to place it on a sounder foundation than at some time in the past. The situation on the whole—and we do not imply that a single company, whose report happens just to have been issued, makes up the whole situation—appears a favorable one from the standpoint of producers of rubber looking forward to a steady market.

COST OF PLANTATION RUBBER.

WE have been asked whether the reports of cost of rubber on some of the Eastern plantations may not have been figured out unduly low, by some trick of bookkeeping, in order to affect favorably the sale of shares in the planting companies. No fact that has come to our notice would seem to justify such thought. It should be mentioned that the management of some of the more important rubber producing companies is in the hands, at least in part, of men who have long been connected with the management of tea joint stock companies. These, as a rule, have been profitable, under honest management, without

scandal of any kind, and the rubber planters seem to be following in the footsteps of the tea estate managers. Besides, those actively in control of the large rubber estates whose reports have been analyzed in those pages seem, as a rule, to be too well satisfied with their investment to be anxious to sell their shares.

It would be difficult in most cases, no doubt, to figure out the actual cost of rubber, particularly on estates which are "in bearing" only in part, and where the labor employed must be devoted more or less to the care of the young and unproductive rubber. But there are some estates on which considerable tracts have been productive for two or three years, and where presumably a fixed labor force is engaged in the work of tapping and curing alone, and here it should be an easy matter to arrive at the cost of these operations. The cost of shipment and selling is an even more simple matter. It is such items that are dealt with in current reports on the cost of plantation rubber. After an estate becomes productive throughout, the charge in respect of capital invested will apply alike to every pound of rubber produced, when the cost will be much simplified.

We do not doubt that such estimates of cost as have been made public in recent company reports have been made with the utmost care, and that they are fairly accurate, at least. But whatever may have been the actual cost of the 350,688 pounds of rubber marketed last year by The Anglo-Malay Rubber Co., Limited, the fact that it realized \$355,317.24 (gold) net, and that—with minor income items of \$6,097.72—they were able to show net profits of \$224,980.50, after paying all estate and office expenses, with a capital issue of only \$666,954.83, would indicate that the holders of the shares need not be eager sellers. Besides, this rubber was gathered on less than 800 acres, while the company have three times as much more planted and paid for, which is expected to come to a tappable stage within a very few years.

TAFT AT THE TEE.—Now that the president of the United States has given the weight of his sporting preference to golf and his avoirdupois to the problem of a long drive, he has become an object of interest to the rubber trade. As a loyal son of Ohio he undoubtedly uses the Haskell ball, which, as everybody knows, was born and brought up there. If he can get all of his energy and one-half of his muscle behind a good swipe off the tee he ought to do something like 900 yards and establish a new record.

AND WHY NOT RESINLESS LATEX?—Since scientists have been able to secure the seedless orange, the spineless cactus and the cobless corn, why not resinless latex? This is respectfully submitted to the plant wizard of the Pacific coast.

SIR DANIEL MORRIS, K. C. M. G., whose retirement from the post of imperial commissioner of agriculture for the British West Indies we reported recently, has been appointed scientific adviser to the British secretary of state for the colonies, in respect of tropical agriculture.

RECLAIMED RUBBER AND THE TARIFF.

FOLLOWING a decision of the United States customs appraisers at New York, admitting imports of reclaimed rubber free of duty [see *THE INDIA RUBBER WORLD*, May 1, 1909—page 285], the treasury department at Washington has issued an order to the collector at New York, the full text of which follows. It will be seen that such material will now be dutiable at 20 per cent:

(T. D. 29,731.)

RECOVERED RUBBER—LEATHER STRIPS, ETC.

RUBBER recovered from old scrap, boots and shoes, etc., dutiable as non-enumerated manufactured article, under section 6, tariff act of 1897.

Treasury Department, May 6, 1909.

Collector of Customs, New York:

SIR: The Board of United States General Appraisers in a decision dated the 8th ultimo, Abstract 21,030 (T. D. 29,690), held that certain reclaimed or recovered rubber from old scrap, boots and shoes and automobile tires, was entitled to admission free of duty under paragraph 579 of the tariff act, relating to crude rubber, scrap rubber, etc., the merchandise having been assessed with duty at the rate of 30 per cent. *ad valorem* as manufacturers of rubber under paragraph 449 of the said act.

After a careful consideration of this question, the Department is of the opinion that the merchandise is a non-enumerated manufactured article, and you are accordingly directed to classify future importations thereof under section 6 of the tariff act at the rate of 20 per cent. *ad valorem*. Respectfully,

JAMES B. REYNOLDS, Assistant Secretary.

An amendment has been prepared to the tariff bill now pending at Washington specifying reclaimed rubber among dutiable imports, and fixing a rate therefor. This matter will be treated more fully when the congress has finished its work and the new schedules become law.

NEW AMAZON BANKING CONDITIONS.

IT may be of interest in connection with the proposals in Brazil for the valorization of rubber [see *THE INDIA RUBBER WORLD*, May 1, 1909—page 281] to note here an extract from the annual report of the Banco do Brazil, presented at the annual meeting of shareholders in April, for a translation of which from the Portuguese we are indebted to *The Brazilian Review*:

"The establishment of the Pará agency has regulated exchange operations in Manáos and Pará, between which markets bills used to be constantly offering, with the result that speculation was ever present, a state of affairs which was most prejudicial to the interest of this rich and fertile region.

"The rise in rubber, after the crisis which had completely disorganized trade, gave a great impulse to business in the Amazon valley. The price of rubber indeed rose to 60 per cent. as compared with the ruling during the last crop.

"How much help the bank gave by establishing these agencies is recognized by all those interested, for it relieved holders of rubber from the prejudicial system of dependence on exporters for cash advances and the supply of plant.

"The high rate of interest and discounts at Manáos is caused by heavy local expenditure and by greater risk in business transactions; in the meantime the agency is working under much better conditions than those offered by capitalists and exporters, who exact as much as 24 per cent. on loans, a fact which is proved by the registers of business done and of mortgages and loans."

It is evident from these paragraphs that, whatever may be the ultimate effect upon the Amazon rubber markets, advances are being made by the bank mentioned through its agencies established recently at Pará and Manáos, upon locally held stocks of rubber to an extent hitherto unknown in the trade. The net profits of the Manáos branch during the second half of

the fiscal year were 265,212 milreis; the Pará profits were smaller, but the central management of the bank are hopeful as to later results.

COTTON PRODUCTION IN AFRICA.

THE sixth annual convention of the International Federation of Master Cotton Spinners and Manufacturers' Association was held during the past month in Milan, Italy, with an attendance of nearly 400 delegates, representing virtually all cotton-growing or cotton-using countries. The conference closed on May 19. Much attention was given to a discussion of methods and suggestions of increasing the production of cotton, the supply of which is regarded as insufficient. It is calculated that the cotton industry of the world is developing at the rate of 2½ per cent. per year, and with the expected recovery from the business depression which has prevailed so widely during the past year or two it is expected that more rapid development will take place. This would give a further stimulus to the growing of cotton in the various countries other than the United States in which attempts in this direction are already making.

The British Cotton Growing Association was reported to have had a setback first in consequence of an unusual drought throughout West Africa, and the financial crisis in the United States. But it is believed that when trade revives there will arise an enormously increased demand for cotton. It has been proved that large quantities of cotton can be produced in the British empire, and all that remains to bring this about is time, perseverance and the necessary capital. The total production under the auspices of this association during the last year was 23,000 bales of the value of £360,000.

Cotton growing in the French colonies, according to a report of the Association-Cotonniere-Colonial, has not shown satisfactory progress. The report of the Kolonial-Wirtschaftlichen Komitee on the state of cotton cultivation in the German colonies says that favorable development has been made in Togo, where the output last year was 1,691 bales against 1,205 bales in the preceding year. The secretary of the cotton committee of the Moscow Exchange made a favorable report on cotton growing in Russian Central Asia.

It would appear, however, from the study of all reports presented, that the United States will long continue to be the chief source of cotton supplies. Another matter discussed was the desirability of reserves of cotton being created for the purpose of arriving at more steady prices and discouraging speculation in the raw material, though no agreement was reached as to a satisfactory method of bringing about such reserve.

A RUBBER TRUST WITH WINGS.

AT a dinner of the Academy of Political Science in New York, Miss Ida M. Tarbell, the widely known writer on "trusts," in discussing the pending Payne tariff bill, said:

"Mr. Payne has done nothing to clip the wings of the rubber shoe trust."

Considering how seldom Miss Tarbell has anything favorable to say about the trusts, it is interesting to learn that she has found one with angelic attributes.

A VERY successful agricultural show was held recently at Coomassie in the British protectorate of Ashanti, West Africa, at which several silver cups were offered as prizes by Sir Alfred Jones, of England. The cup offered for the best display of rubber was won by a native for samples prepared from the *Funtumia elastica*, both with the juice of the *Batinia reticulata* and by a steam process.

At the recent Uganda Exhibition in British East Africa, a leading feature was the display of rubber and other native products, made by the Mabira Forest (Uganda) Rubber Co.

The Editor's Book Table.

THE COMMERCIAL PRODUCTS OF INDIA. BEING AN ABRIDGMENT of "The Dictionary of the Economic Products of India." By Sir George Watt, C. I. E., M. B., C. M., LL. D. Published Under the Authority of His Majesty's Secretary of State for India in Council. New York: E. P. Dutton & Co. 1908. [Cloth. Large 8vo. Pp. viii + 1189. Price, \$5 net.]

THE monumental work of Watt, of which this is a condensation and revision, from the same hand, was completed about 15 years ago, in ten bulky volumes, since which time the whole has been the chief authority in its field. There was no product of India, native or cultivated, concerning which it did not present comprehensive and accurate information—it was, in short, a marvelous book. In time, the edition of the book having become exhausted, and owing to the desirability of including in it information of a later date, the author has been induced to prepare the one volume work now before us. In plan it resembles the earlier "Dictionary," particularly in embracing so many references to printed sources of information on all the subjects treated. India-rubber, as a product of India, comes in for notice at considerable length, including the various species, other than native, that have been placed under cultivation in the empire.

THE COPPER HANDBOOK. A MANUAL OF THE COPPER INDUSTRY of the World. Volume VIII. Houghton, Michigan: Horace J. Stevens, compiler and publisher. 1908. [Cloth. 8vo. Pp. 1500. Price, \$1.]

ONE can hardly even glance through this book without gaining an enlarged idea of the importance to the world of copper. This metal is treated from every new point—its occurrence in nature, its mining, and its applications in the industries and otherwise. The very large employment of copper in the electrical field makes it of no little interest to a branch of the india-rubber trade, and from the recent increase in the uses of electricity it is safe to predict that the insulation of copper wires with rubber will see an even greater expansion. The statistical department is very full, and no fewer than 6,767 copper mining companies, throughout the world, are mentioned by name and details of interest given in regard to them. The Copper Handbook appears annually.

TAPIOCA AS A CATCH-CROP FOR PARA RUBBER. BY E. Mathieu. Singapore: Straits Times Press, Limited. 1908. [Paper. 8vo. Pp. 34. Price, \$1.]

THE author of this very practical brochure has had such experience in planting in the Straits Settlements and Malaya as to give him right to a hearing on the subject noted. The cultivation of tapioca or manioc (*Manihot utilissima*), which is of not a little importance, centers largely in Malaya, and Mr. Mathieu is convinced that its growth on the same premises with Pará rubber, already in progress, is bound to become very profitable and to extend, in support of which belief he presents detailed estimates.

VERSLAG VAN HET CAOUTCHOUC-CONGRESS GEHOUDEN TE Djember op 19, 20 en 21 October, 1907. Uitgegeven Door de Vereeniging tot Bevordering van Landbouw en Nijverheid te Djember, met Medewerking van het Departement van Landbouw te Buitenzorg. Batavia: Landsdrukkerij. 1908. [Paper. 8vo. Pp. iv. + 175 + 23 plates.]

THIS volume illustrates the thoroughness and painstaking which characterize the work of the Dutch colonial authorities in the East Indies, and likewise of the planters and others who figure in the progress of the colonies. It is a report of the proceedings of a rubber congress held at Djember, in eastern Java, under the auspices of the local association for the promotion of agriculture and industry, with the coöperation of the agricultural department at Buitenzorg. A total membership of 98 was registered, for the most part engaged practically in planting rubber, the others being connected more or less directly with their interest—members of scientific staffs and the like. The congress covered a wide range, and the volume before us contains a synopsis of the formal addresses and of the resulting discussions, together with appendixes containing summaries of value, from various

sources, supplementing the major part of the book. The subjects covered embrace the suitability of the various rubber species for cultivation under various conditions, cultural methods for *Hevea*, *Ficus*, etc., tapping and coagulation processes, and generally, the whole field of plantation rubber production, including tree maladies and pests. The congress may be described as the most important that has yet been held in connection with rubber, and its success doubtless had something to do with the appointment of the Netherlands commission for the International Rubber and Allied Trades Exhibition in London a year later.

LE CAOUTCHOUC ET SES ORIGINES. PAR DR. ROBERT HENRIQUES. Traduit de l'Allemand par M. Amédée Fayol. Paris: Augustin Challamel. 1909. [Paper. 8vo. Pp. 48 + folding tables. Price, 3 francs.]

CULTURE DU CAOUTCHOUC EN COLOMBIE. PAR DR. CARL OTTO WEBER. Traduit de l'Allemand par M. Amédée Fayol. Paris: Augustin Challamel. 1909. [Paper. 8vo. Pp. 56. Price, 2 francs.]

THE monograph on rubber and its sources, by the late Dr. Henriques, was so comprehensive and so accurate that the translator into French has not deemed it necessary to make additions, although the original appeared more than ten years ago. In this shape it doubtless will prove of value to many persons to whom French is more familiar than the original German.

The second title relates to a translation of a report by the late Dr. Weber, whose studies of rubber led him to make a visit to South America, where he dealt with both wild and planted rubber. These two brochures are recent additions to the valuable Bibliothèque d'Agriculture Coloniale published by Challamel.

THE RUBBER INDUSTRY IN THE TERRITORIES OF MANICA and Sofala. By W. H. Johnson, F. L. S. London: Whitehead, Morris & Co., Limited. 1908. [Paper. Large 8vo. Pp. 39. Price, 1 shilling.]

PUBLISHED for the Cia. de Moçambique, *concessionnaires* of a large district in Portuguese East Africa. Much forest rubber has been obtained here, and plantations are being formed.

AU PAYS DU CAOUTCHOUC. LE NORD DU BRÉSIL, LA RÉGION de l'Amazonie, du Para, et de Matto-Grosso. L'Avenir du Pays—l'Alliance des Peuples Latins. Par Paul Théodore-Vibert. Paris: Société des Etudes Portugaises. 1908. [Paper. 12mo. Pp. 18.]

A LECTURE on the wealth in rubber of the Amazon, in Paris, before the society named on the title page.

OTHER BOOKS RECEIVED.

THIRTY-FIRST ANNUAL REPORT OF THE BUREAU OF STATISTICS of Labor and Industries of New Jersey. For the year ending October 31, 1908. Camden: Sinnickson Chew & Sons Co. 1909. [Cloth. 8vo. Pp. xii + 300.]

TWENTY-FIRST ANNUAL REPORT OF THE COMMISSIONER OF Industrial Statistics [of Rhode Island], made to the General Assembly at its January Session, 1909. Providence: E. L. Freeman Co. 1908. [Cloth. 8vo. Pp. 1168.]

THE VALORIZATION OF COFFEE IN BRAZIL. A LECTURE Delivered Before the Members of the Antwerp Society for the Study of Colonial Questions. By F. Ferreira Ramos, Civil Engineer, San Paulo. Antwerp: J. E. Buschmann. 1907. [Paper. 8vo. Pp. 208.]

THE FOREIGN COMMERCE AND NAVIGATION OF THE UNITED STATES, for the Year Ending June 30, 1908. (Department of Commerce and Labor, Bureau of Statistics.) Washington: Government Printing Office. 1908. [Cloth. 4to. Pp. 1222.]

THE MERCHANTS' ASSOCIATION OF NEW YORK. YEAR BOOK. 1909. New York: 1909. [Paper. 8vo. Pp. 94.]

RESULTS OF PURCHASING COAL UNDER GOVERNMENT SPECIFICATIONS. By John Shober Burrows. With a paper on Burning the Small Sizes of Anthracite for Heat and Power Purposes. By Dwight T. Randall. (United States Geological Survey—Bulletin 378.) Washington: Government Printing Office. 1909. [Paper. 8vo. Pp. 44.]

IN CURRENT PERIODICALS.

NOTE sur le "Chingane" arbre a Caoutchouc de l'Afrique Orientale Portugaise. By A. de Saldanha e Castro. [Newly discovered tree, called locally "chingane"; it is a question whether it is a new species of *Mascarenhasia* or only a variety of *Mascarenhasia elastica*, which yield the rubber called "rugoa."—*Journal d'Agriculture Tropicale*, Paris. IX-93 (Mar. 31, '09). Pp. 65-68.]

L'Entretien du Sol dans les Plantations d'*Heveas*. By O. Labroy. [Deals with keeping soil in condition.]—*Journal d'Agriculture*, Paris. IX-93 (Mar. 31, '09). Pp. 73-76.]

Nochmals die Zukunft des Para-Kautschuks am Amazonas. By D. Sandmann. *Der Tropenpflanzer*, Berlin. XIII 4 (Apr. '09). Pp. 153-199.]

Termes Gestroi. By Walter Towgood. [Report on the white art pest in rubber plantations, which the author deems of importance and demanding prompt treatment, though affording no grounds for the alarmist.]—*Agricultural Bulletin*, Singapore. VIII-3 (Mar. '09). Pp. 97-104.]

What the Rubber Planters Are Doing.

PROFITS OF THE ANGLO-MALAY RUBBER CO.

THE third annual report of The Anglo-Malay Rubber Co., Limited, contains details regarding their plantations in Malaya of even greater interest than those given in these pages regarding the same company just a year ago. Last year the average yield of all the trees tapped was just 3.29 pounds. During the 14 months prior to that year the average was 1.68 pounds per tree. But during 1908 about 13,000 eleven year old trees on the company's "Ayer Augat" estate gave an average of 5 pounds of dry rubber; the trees on "Batang Kali" averaged 4¼ pounds, and "Linsum" 3¾ pounds. The report gives the net sales result, and not the gross price obtained, working out at an average for the year of 4s. 2d. [= \$1.01½]. The rubber is considered to have cost 1s. 4d. [= 32.4 cents], which would indicate a profit of 68.9 cents per pound. The rubber crop was 350,688 pounds, derived from less than 800 acres, or about 440 pounds per acre. The company now have 3,364 acres under rubber, and at the same rate of yield, when all the trees are tappable, a total yield of nearly 1,500,000 pounds is indicated. The tapping and curing cost per pound on their principal estate was reduced from 27.02 cents (silver) in 1907 to 20.63 cents in 1908, the latter figure being equivalent to cents, gold. The amount realized from rubber sales during the year was £73,012 17s. 10d. [= \$355,317.77].

COMPARATIVE RESULTS.

THE Selangor Rubber Co., Limited—Federated Malay States:

	1906.	1907.	1908.
Yield (pounds)	70,577	129,524	189,979
Selling price, net	5s. 11½d.	3s. 10½d.	4s. 4½d.
Dividends	40%	41 6/7%	75%

A small proportion of the yield has been from "rambong" (*Ficus*), which latter will gradually be cut out, as the interpolated Pará trees become large enough. The *Hevea* trees on 130 acres are reported to have yielded about 6 pounds of rubber each during 1908 on the continuous tapping system—i. e., a cut every second day throughout the twelve months.

The Anglo-Malay Rubber Co., Limited—Federated Malay States:

	1906.	1907.	1908.
Yield (pounds)	91,703	224,778	350,688
Selling price, net	4s. 11½d.	3s. 9½d.	4s. 2½d.
Dividends	18%	10%	30%

Consolidated Malay Rubber Estates, Limited—Federated Malay States:

	1906.	1907.	1908.
Yield (pounds)	32,993	63,015	111,585
Selling price, net .....	.....	.....	4s. 2½d.
Dividends	10%	10%	17½%

The average yield per tree in 1908 was practically 3.4 pounds.

Highlands and Lowlands Pará Rubber Co., Limited—Federated Malay States:

	1906.	1907.	1908.
Yield (pounds)	134,285	193,397	224,287
Selling price, net	5s. 2¾d.	4s. 0¾d.	4s. 3d.
Dividends	11%	12½%	15%

The yield on "Highlands" estate was 2.87 pounds per tree and on "Batu Unjor" 2.46 pounds.

The Golden Hope Rubber State, Limited—Federated Malay States:

	1906.	1907.	1908.
Yield (pounds)	2,400	5,591	14,075
Selling price, net .....	.....	3s. 7¾d.	4s. 3½d.
Dividends	5%	6%	8%

The tapping cost in 1908 is reported to have been less than 12 cents (silver) per pound.

GOOD YIELD ON PATALING ESTATES.

At the sixth annual meeting of shareholders of The Pataling Rubber Estates Syndicate, Limited (London, March 31), the

report for the year 1908 contained details which permit the following comparative statement to be made:

	1905.	1906.	1907.	1908.
Rubber produced (pounds)	27,699	43,310	58,364	80,922
Average net price realized	38 5/8d.	5s. 1 7/10d.	38 7/10d.	4s. 3 3/4d.
Above equivalent to	\$1.01 1/4	\$1.24 1/3	\$0.89 1/4	\$1.05
Dividends	20%	40%	35%	45%

The number of trees tapped is not stated, but it is known that the average yield per tree in 1905, the first year of tapping, was one pound. The company now have 35,730 rubber trees, planted more than six years ago, and it is to be presumed that last year's production was gained from these. The cost of tapping and scrapping has declined steadily, viz.: 22½ cents (silver) per pound in 1906; 16½ cents in 1907; and less than 13 cents in 1908. Thirteen cents in Straits money is equal to 7¾ cents in United States money. The total cost of the crop f. o. b. at Port Swettenham in 1908 was 24¾ cents, gold.

RUBBER PLANTING IN THE DUTCH EAST INDIES.

THE table which appeared in THE INDIA RUBBER WORLD last month (page 243), giving the amount of capital of companies formed to plant rubber in the Dutch East Indies, was compiled from the *Bulletin de l'Association des Planteurs de Caoutchouc*, in a later issue of which the figures are modified, on account of the liquidation of some of the companies and for other reasons. The new figures are as follows:

In Java:

Dutch companies	florins	3,426,000
British companies		5,820,000
Belgian and French companies		6,670,000
German companies		904,000

In Sumatra, Borneo and Rion:

Dutch companies		1,350,000
British companies		14,254,000
Belgian and French companies		7,850,000
German companies		1,335,000

Total florins 41,609,000
[Total equivalent to \$16,768,427.]

FRIENDS OF RUBBER PLANTING.

ON the initiative of the Rubber Growers' Association, the headquarters of which are in London, close relations have been established with the newer Association des Planteurs de Caoutchouc, of Antwerp. The chairman, the vice-chairman and secretary of each organization have been made honorary members of the other. Mr. Alexander Bethune has been elected chairman of the Rubber Growers' Association, succeeding Mr. Henry Kerr Rutherford, who remains a member of the executive committee. Mr. Bethune has long been the London correspondent of the *Times of Ceylon*, and is a director in half a dozen companies planting rubber in Ceylon and Malaya.

Mr. J. B. Carruthers, some time government mycologist in Ceylon and later director of agriculture and botanist in the Federated Malay States, is going to Trinidad, having accepted the post of assistant director in the new department of agriculture there. This appointment is not in the nature of making Mr. Carruthers a successor to Mr. John Hinchley Hart, F. L. S., who resigned recently as superintendent of the Trinidad botanic gardens, but in view of Mr. Carruthers's knowledge of and interest in rubber culture, and the further fact that the botanic gardens will be under the care of the new department, he may be depended upon to continue the excellent work in relation to rubber in the British West Indies inaugurated by Mr. Hart.

Dr. John C. Willis, director of the Ceylon botanic gardens, has taken a year's leave and is now in Europe. After consulting an oculist at Wiesbaden, Dr. Willis will represent Ceylon at the Darwin centenary celebrations at Cambridge in June.



YOUNG "HEVEA" RUBBER ON THE PAHANG PLANTATION. MAY, 1909.

AMERICANS PLANTING RUBBER IN THE EAST.

READERS of THE INDIA RUBBER WORLD are familiar with the prominence of the Waterhouse family in the Cear  rubber plantations that have been installed in the territory of Hawaii. They may not perhaps be so well aware that the same enterprising Americans have taken up land in the Malay States and have already made notable progress in planting *Hevea* rubber. They have done this by incorporating two companies, the capital being subscribed by business men in Hawaii.

One of these plantations, owned by the Tanjong Olak Rubber Plantation Co., Limited [see THE INDIA RUBBER WORLD, November 1, 1907—page 43], with 1,450 acres on the Muar river, in the state of Johore, now employs some 600 men and has 1,000 acres planted to *Hevea*. The oldest rubber on this plantation is 2½ years old. After experimenting with Chinese and Malay labor, the company has finally settled down to the use of Javanese coolies. The company is capitalized for \$200,000 gold, all paid in.

The second company operated by the same group—The Pahang Rubber Co., Limited [see THE INDIA RUBBER WORLD, February 1, 1907]—owns some 2,000 acres of land in the state of Pahang, about 60 miles from Kuala Lumpur, and is connected with that center by an excellent automobile road over which an auto 'bus makes regular trips. This company is incorporated for

\$150,000. Both of the plantations are well situated and are under the direct charge of experienced Scotch superintendents.

While thus active in planting rubber in the East, the Messrs. Waterhouse and their associates in Hawaii continue their interest in the plantations established by them some years ago in that territory, and are active members of the local Rubber Growers' Association. Mr. F. T. P. Waterhouse, who recently published an informing report on rubber cultivation in Ceylon and Malaya, after a visit to those regions, recently spent some weeks in Mexico, presumably in a study of the plantations of *Castilloa elastica*.

The February *Philippine Agricultural Review* (Vol. II., No. 2) is devoted mainly to india-rubber, prominence being given to a reprint of Mr. F. T. P. Waterhouse's report on rubber cultivation in Ceylon and Malaya [see THE INDIA RUBBER WORLD, February 1, 1909—page 172]. The *Review* also quotes from a report by Mr. Jared G. Smith, of the Hawaii agricultural experiment station, on "Systems of Tapping Cear  Rubber Trees." Gradually a very interesting volume of literature relating to rubber culture is being compiled under United States auspices.

For example, the *Philippine Agricultural Review* mentions the Compa ia General de Tabacos de Filipinas, the owners of large tracts of land in the province of Tarlac, as contemplating the planting of rubber, either *Castilloa* or *Hevea*, and many other evidences exist of interest in the Philippines in rubber.

PAHANG PLANTATION.
[*Hevea* rubber at 18 months.]TANJONG OLAK RUBBER PLANTATION.
[Nursery of *Hevea* at 3 months. Coolie lines on the right.]TANJONG OLAK RUBBER PLANTATION.
[*Hevea* at 2½ years. One of the drains.]

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

AS I write the almost universal topic of conversation is the Budget, with increased taxation. The only point which calls for notice here is the tax on petrol* and the increased tax on motor cars. There are not wanting those who prophesy disaster to the motor car industry through these taxes,

THE BUDGET AND PETROL.

but such fears will no doubt prove exaggerated. It is quite probable, though, that the sale of large cars will be affected with a tax of £20 and 3 pence per gallon on petrol. These large cars only run about eight miles on a gallon of petrol, and the tax will therefore prove rather a heavy one. Against this, of course, has to be set the fact that the owners of such cars are wealthy people, who will not deny themselves pleasure for the sake of saving a few pounds. It is generally observed that difficulties will arise about this petrol tax. It is to be 1½ pence for commercial vehicles, but there are several cars which can be easily adapted for pleasure at the week end after being used for delivering goods during the week. It is being asked how such cars are to be classified. And then about the petrol. As in the Budget statement only petrol was mentioned, but the further information had been given that petrol is to include benzine, benzoline, and petroleum products generally. Nothing seems to have been said about Scotch shale spiral, coal tar benzol, and certain coke oven products, all of which are now used to some extent either alone or in admixture with petrol. Any excess production of solvent naphtha will also, I am told, be used in the future in place of petrol. The petrol tax is estimated to yield £375,000 per annum, which sum is not to go to the imperial exchequer, but will be in the hands of a new road authority to be created, and will be used for improving and repairing roads, and also for preventive measures against the dust nuisance. To this purpose is also to be devoted the increased tax on cars, so that there will be altogether about £600,000 available for road improvement. I rather expect that the term petrol will be made to include all spirit used for motor purposes; if not, the new tax will certainly give an impetus to the use of the other spirits I have just mentioned. So far there has been no regular or organized distribution of these spirits, and they have been mainly used by those who were in a position to obtain them easily.

An advertisement relative to the disposal of the patents of La Compagnie du Caoutchouc par le Latex, which appeared recently, is of more than passing interest.

TRANSPORTATION OF RUBBER LATEX.

The company are the proprietors of two patents granted to Dr. Lucien Morisse, a Frenchman who has studied rubber plants in South America. Both these patents—at least the British one—bear the date April 11, 1905. The first is entitled "A process for treating caoutchouc milks with a view to transplanting them," and the second bears the title: "Direct utilization of caoutchouc milk." The two patents are now offered for sale, or licenses to use them will be granted. The idea of utilizing rubber latex in manufacture without previous coagulation was of course proposed by Hancock, who found so much difficulty in getting the latex in the uncoagulated form that he shortly abandoned his attempts to utilize it. Since then, as far as I am aware, nothing has been heard of the suggestion. Morisse, however, in his patent, claims to have overcome the difficulty of transport, though he calls upon our old friend ammonia as the active agent in his process. It is, however, used in a different manner to what has been customary in the case of transporting the latex short distances in the forest. According to the patent, the bark of the tree is scraped

or peeled where the tree is tapped, and some ammonia solution or alkaline salt is put on. After collection the latex is treated in bulk with 3 grams of ammonia solution to the 100 grams of the latex. Some boiled water mixed with an antiseptic, such as phenol or formic aldehyde, is also added to the transportation vessel. The second patent claims a method of preparing formed objects from india-rubber, gutta-percha, or balata, of which the characteristic is that the milky juices containing these matters are poured directly into molds, in which the gum is separated and by known means and in certain cases vulcanized. I may say that this is a translation of the German patent (not by myself), and so its exact wording must not be criticised. With regard to these patents, I understand that they have been made the subject of investigation, and tried by a syndicate in Paris, and that Monsieur Victor Henri, professor at the Sarbonne, was for some time chemical adviser to the syndicate. This post he resigned some time last autumn.

OCCASIONALLY this subject crops up for discussion, and although of considerable importance to the purchasers of a variety of rubber goods, it has not been customary for the trade to give any detailed advice as to the best procedure, except in

STORAGE OF RUBBER GOODS.

two or three cases. In the army more attention has been paid to the subject, and I propose to give herewith the regulation of the army ordnance service dealing with the matter. I may point out that the subject is of more importance in the army than in civil life because certain classes of rubber goods are bought in bulk to last a considerable time of issue. That in the case of some foreign stations, goods may be kept in store for two years before use, and if found deficient at time of issue a considerable period must necessarily elapse before they could be replaced.

REGULATIONS.

ARTICLES which consist entirely or partly of india-rubber or gutta-percha, and which are not already issued packed in water, will be stored as follows: Small articles made with india-rubber, such as gage glass rings, electric-wire, tubing, or plugs and rings appertaining to army service corps harness, will be issued in tins filled with French chalk, and be as stored. Large articles which cannot be kept in French chalk will be stored in a cool, dark place, having, if possible, an equable temperature. Should any small articles be received into store not packed in chalk, they will be stored in water; also very large articles that cannot be kept in a cool, dark place.

It is further ordained that small articles received into store at out stations are, if not intended for immediate issue, to be removed from the hermetically sealed tins and placed in water; either in store or on board ship as the case may be.

The extremities of insulated wires are, whether kept in water or in chalk, to be sealed with a cement consisting of equal parts of gutta-percha and pitch.

Bicycle tires, covers and inner tubes, diving dresses, bags for limelight apparatus, imbedded suction hose, carriage buffer pads and washers are to be stored in a dry, dark and cool place. If any of these articles are to be kept in store for a long time they are to be packed not too tightly in hermetically sealed cases.

THE refusal of the comptroller general of the Patent office to allow the Gutta Percha and Rubber Manufacturing Co. of Toronto to register their "Maltese Cross" trade mark in England was upheld some months ago by Mr. Justice Neville, in

"MALTESE CROSS" TRADE MARKS.

the chancery court. The opponents to the registration were the Birmingham and Leyland Rubber Co., Limited, who are already in possession of a "Maltese cross" mark. The Toronto company appealed against the decision, and the case was heard in the court of appeal the last week in April, when the lords justices dismissed it with costs. This means, unless the case goes to the House of Lords, that no goods of Toronto make, not even boots and shoes, which are not made by the Leyland firm, can be sold in Great Britain bearing the "Maltese cross" mark. According

*Called gasoline in the United States. THE EDITOR.

to the dictionary the Maltese cross is a cross with eight points, and is worn by the Knights of Malta. Looking at the Maltese crosses depicted in the advertisements of the firms mentioned, it is noticeable that they vary considerably from one another, and I don't see how any one could confuse the respective goods when the illustrations as well as the title Maltese cross are used.

THE article on the history of the North British Rubber Co., Limited, which appeared in the April number of THE INDIA

NORTH BRITISH RUBBER CO.

RUBBER WORLD (page 237), has been read with no little interest in British trade circles. Perhaps I may be allowed

to enlarge somewhat upon one of the references. Among the American works superintendents at Edinburgh, at various times, the name of "Mr. Stevey" is mentioned. Evidently this is a misprint for "Storey." There was a Mr. Robert Storey there for a short time about 1860. He came from New Haven, Connecticut, where he had been an assistant to Lewis Elliott, so long the superintendent of L. Candee & Co., the rubber footwear manufacturers. Mr. Storey's stay in Edinburgh was brief, and he passed on to the then newly established Russian-American India-Rubber Co., at St. Petersburg, where he remained for some time as works manager. Returning to England he joined the Liverpool Rubber Co., Limited, as manager, from which position he retired about 1873; afterward he continued a director in the company until his death in March, 1892, at Frankfort-on-the-Main, Germany, at the ripe age of 80 years. At the time of his death he is understood to have held a considerable financial interest in both the Russian-American and the Liverpool Rubber companies.

WHETHER the increasing use in recent years of reclaimed rubber has had much effect upon the production and sale of oil

SUBSTITUTE. TRADE NOTES.

substitutes is a matter in which it is very difficult to get reliable information. It is generally recognized that

owing to competition there is very little profit at the present day for the substitute manufacturer. Despite this, new firms continue to enter the field. One of the most recent of these is the Rubber Substitute Co., proprietors Central Works, Oxford street, Hull. This town ranks with Marseilles as a center of the oil seed crushing industry, and no doubt the making of substitutes by firms connected with seed oil business is associated with advantages not obtainable elsewhere.

Another new firm in the line is T. Hallas & Co., of Cinderhill Mill, Halifax road, Todmorden. In this case machinery has also been installed for the production of reclaimed rubber.

A few months ago I noticed the fact that G. W. Laughton & Co., Limited, substitute and reclaimed rubber manufacturers of Clayton, Manchester, had opened a branch works at Steinklamm, near Vienna. One of the main reasons for this step was the avoidance of the heavy duties they have had to pay on their exports to Austria. The rubber manufacture is being taken up to a certain extent at the new works, and Mr. Dawson, formerly of Charles Macintosh & Co., Limited, and the W. T. Henley's Telegraph Works Co., has recently gone out to superintend the operation.

William Rowley & Co., Limited, of Manchester, although continuing their old established business in substitutes and reclaimed rubber, have a special and important department as dealers in second-hand rubber machinery. This branch may or may not be very profitable, but it is practically a monopoly of the firm, and so free from the increasing competition in the substitute line.

WHAT GIVES QUALITY TO RUBBER.

AT a meeting of the London section of the Society of Chemical Industry, held on May 3, Dr. J. Lewkowitsch being in the chair, among the papers read and discussed was one on

"Vulcanization Tests in Plantation Rubbers," by Clayton Beadle and H. P. Stevens. According to *The Times*, they described certain chemical and physical tests made on samples of rubber from plantation block, crepe and biscuit from young and old trees, and also a specimen of fine hard Pará rubber. These experiments were made on the raw rubber, and on this material vulcanized either with sulphur only or with sulphur and mineral matter. These experiments, together with viscosity tests on raw and manufactured rubber, lead to the conclusion that the method employed in coagulating and treating the latex has a greater influence on variations in the quality of plantation rubber than any difference in the ages of the tree.

PRESIDENT TAFT'S SUMMER COTTAGE.

THE President of the United States, following the example of his predecessors, will not remain in Washington during the hot months, and there has been much speculation as to where the nation's "summer capital" would be located under the new administration. Mr. Taft has settled the matter by leasing "Stetson cottage," at Beverly, Massachusetts, which is shown in an



"STETSON COTTAGE," LEASED BY PRESIDENT TAFT.

[At Burgess Point, Beverly, Massachusetts. Owned by Mr. Robert D. Evans.]

accompanying illustration. It is the property of Robert Dawson Evans, of Boston, the beginning of whose fortune were made in rubber, and who was sometime president of the United States Rubber Co. Beverly is situated in an inlet of the Atlantic, 3 miles north of Salem, and has a population, exclusive of summer residents, of about 15,000. The estate which Mr. Taft has chosen is known as one of the beauty spots along the shore. The "Dawson cottage," at Beverly, also belongs to Mr. Evans, and is his summer residence. The cottage which President Taft is taking has been occupied during recent summers by Costello C. Converse, vice-president of the Boston Rubber Shoe Co. and a director in the United States Rubber Co.

Mr. Evans of late has been interested largely in copper, particularly as one time president and since a director in and largest shareholder of the United States Smelting, Refining and Mining Co., operating in Utah. He was mentioned in the newspapers recently as having received \$5,000,000 in cash for shares held in this company and sold to a fellow director.

THE United States cable ship *Burnside*, lately sent to discover the cause of the interruption of the cable service between Valdez and Sitka, Alaska, found that it was due to a whale becoming tangled in the cable. More than 200 feet of cable was twisted into a knot, but the cable did not part.

The Relation of Patents to Progress.

A BRAHAM LINCOLN, in a public address, expressed the opinion that the introduction of patent laws had contributed to the world's progress to an extent to entitle it to rank in importance with the invention of printing and the discovery of America. This view of the importance of patent systems is shown by Frederick P. Fish in a paper read before the American Institute of Electrical Engineers (New York, May 18, 1909). Mr. Fish regards the patent system of Great Britain as dating from 1558, and the next to be developed was in the United States. The first patent granted in America, by the way, was in the Colony of Massachusetts, being dated 1641. The remarkably clear and well sustained argument made by Mr. Fish is too voluminous even for a synopsis in *THE INDIA RUBBER WORLD*, but seems to justify the conclusion of his paper:

"Generally speaking, however, it seems clear that in their [patent statutes] present form and with their present spirit as they have been developed and applied by the courts, they are among the most effective agents for the promotion of our national and individual prosperity, and as such entitled to the cordial support of all. They are particularly entitled to recognition as a social and industrial force of the utmost importance by the members of this body, many of whom are inventors of a high order, and all of whom are definitely engaged in lines of work which probably could not have been developed to their present state of relative perfection in a thousand years from the date of Faraday's work and the construction of the Gramme machine, if it had not been for the stimulus of the patent systems of the world, and in particular of the patent system of this country."

* * *

A QUITE different view is expressed in an editorial on "Monopolies and Patents" in *The Journal of Commerce* (New York, May 4, 1909), from which we quote:

"The mother of the most monopolistic and oppressive trust in the United States is not the tariff but the patent law, which gives an absolute and exclusive monopoly to the patentee of any mechanical device, appliance or process. . . . A trust that is thus bound together by patent rights granted and protected by the government becomes far more formidable than any that depends upon tariff advantages. There needs to be a reform of patent laws which shall induce competition in invention and in the use of patented devices, instead of preventing it, and at the same time insure a proper reward to the actual inventor, who is now lost sight of in the patentee that gets possession of the product of his ingenuity by assignment and arrogates to himself a huge monopoly profit."

The "trust" mentioned by *The Journal of Commerce* is the United Shoe Machinery Co., who lease their patented machines only on the condition that the lessees shall use no other. [See *THE INDIA RUBBER WORLD*, July 1, 1907—page 316.] It should be pointed out that Mr. Fish does not consider any system of patent protection perfect, all being of human origin, but whatever the defects of existing systems he thinks the world's progress has been so vastly enhanced by them as to compensate for their faults, either in statutes or their construction.

* * *

UNDER the title "High Estimate of Patent Values" *THE INDIA RUBBER WORLD* already (November 1, 1907—page 35) has quoted from a report of the directors of the Westinghouse Electric and Manufacturing Co. to the effect that patents and licences for patents are the very foundation of the business of the company named and of the General Electric Co., with whom they have certain working agreements. The cost of the patents referred to they are not able to compute, but it is stated that: "Almost

every detail of the entire product of both companies is dependent upon the use of some one or more of the many thousand patents jointly owned, the right use of which should be worth an average of at least 10 per cent. on the value of the apparatus manufactured and sold under their protection." These patents, if capitalized at 10 per cent. on the basis of output of the two companies at the time the report appeared, would have a gross value of \$30,000,000. In the latest annual report of the General Electric Co., however, the item of "Patents, franchises and good will" figures in the assets at only \$1.

* * *

THE twenty-sixth annual report of the British comptroller general of patents derives special interest from the fact that it covers part of the first year of the operation of the law providing that British patents worked exclusively or mainly outside the United Kingdom may be revoked, under certain conditions. It appears that applications for such revocation were made in fifteen cases. Two of these were abandoned, in two cases the patent was revoked and eleven cases were pending. The bearing of the law is of widespread interest, since of the 16,264 patentees in 1908 no fewer than 2,819 were resident in the United States, 2,516 in Germany, 822 in France, and so on.

Referring to the progress of invention, the British report says: "The subject of locomotion in general occupies a prominent position in the titles of applications for patents. . . . This may be regarded as principally due to the continued interest taken in the motor car and in subjects more or less directly connected therewith. Thus great, though diminishing, activity still prevails as regards wheels, where efforts have been largely directed toward the provision of an easily detachable tire-carrying rim. . . . The increasing importance of india-rubber in the industrial world is shown by attention being given to processes for the regeneration of waste rubber and the synthetic production of rubber or rubber-like products."

* * *

A TREATY covering the reciprocal protection of patents has been concluded between the United States and Germany. Under it is eliminated any requirement in either country that the manufacture of an article must be in the country issuing the patent. The effect of this is to permit the issuing of patents in either country and have them continue valid if the article patented is manufactured in another country and imported to that in which the patent is granted.

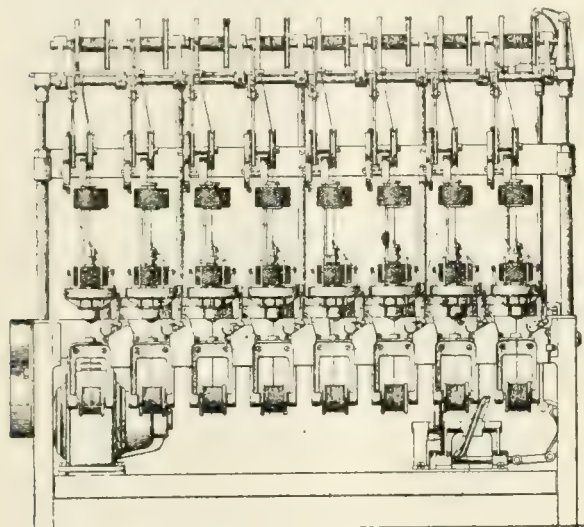
USE FOR WASTE CIGARETTE SMOKE.

THE British Government have been pleased to grant letters patent—whether or not in the absence of His Majesty the King from his Realm in Foreign Parts. *THE INDIA RUBBER WORLD* is not advised—in respect of an invention which has to do with pneumatic tires and which differs in noticeable degree from any invention heretofore similarly recognized by His Majesty's government. To wit: It relates to puncture locators of the type in which smoke from a cigarette or other smoke producing material is pumped into the tire, the smoke issuing from the puncture revealing the position of the same. The whole thing is extremely simple. A lighted cigarette is fitted in a holder which screws into a tapped cup engaging with a threaded branch forming on a pump barrel. A valve, guided in the throat of the branch, is covered by a rubber plug disk. On the out-stroke of the pump, cigarette smoke is drawn through ports cut in the valve setting; no air is drawn from above the plunger, as oppositely disposed cup leathers are employed. During the compression stroke the valve is moved off its seat, and presses the plug against the orifice.

NEW FACTORY APPLIANCES.

A WIRE INSULATING MACHINE.

A MACHINE for insulating wire recently invented by Frank D. Platter, who has assigned his to the Western Electric Co., is shown in the accompanying illustration. Briefly described, it shows a frame on which is a cop carrier rotatably supported and arranged to wind the insulating thread upon the wire. There is also a mechanism for driving both the cop carrier and for

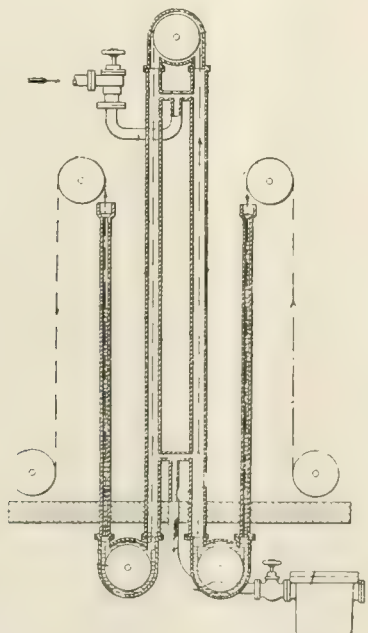


PLATTER'S WIRE INSULATING MACHINE.

feeding the wire; a magnet mechanism for stopping the driving mechanism, an insulated contact piece with which the wire engages after passing the cop carrier, a circuit for the magnet including a source of current, and having its opposite terminals connected respectively with the contact piece and the frame of the machine. The United States patent is No. 918,590.

CONTINUOUS VULCANIZATION.

A NEW suggestion in continuous vulcanization is shown in the accompanying illustration. It is a vulcanizer for curing long strips, belts or rods. It is really a series of steam pipes, coupled



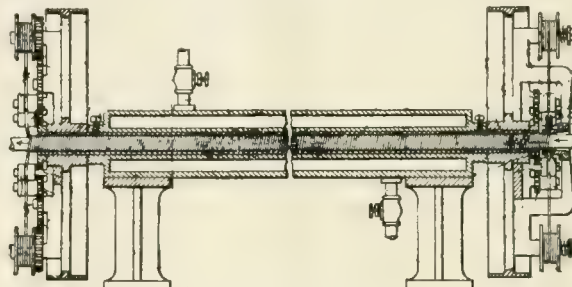
FOR VULCANIZING LONG STRIPS.

end to end, standing roughly in the form of the letter W. Above each end is a roll over which the strip to be vulcanized passes. There are also three rollers, one in each curve. The strip to be

vulcanized is led into the pipe under the first bottom roll, up and over the top roll, then down under the second bottom roll, up again, and out. During this process steam is let into the two central pipes and prevented from escaping by "mercury or other liquid seals." A British patent (No. 26,627—1907) has been granted to W. D. Gratama, Rijswijk, Holland.

VULCANIZING HOSE IN CONTINUOUS LENGTHS.

ANOTHER ingenious and yet simple machine for making hose in continuous lengths has been patented by John Gammeter and assigned to The B. F. Goodrich Co. As will be seen from the illustration, the machine consists in the main of a hollow vul-

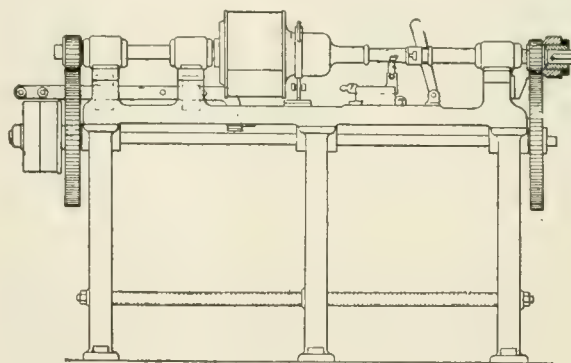


GAMMETER'S HOSE VULCANIZING APPARATUS.

canizer, open at both ends, through which the hose is led. At either end are bobbins and coiling dies, so arranged that the hose is wrapped before entering the curing chamber and unwrapped as it comes out. This process is continuous. The patent is numbered 913,720.

BEVELING PNEUMATIC TIRE TUBES.

A SIMPLE and effective machine for beveling inner tubes for pneumatic tires is shown in the accompanying illustration. It consists briefly of a shaft upon which the tube casing is



MACHINE FOR BEVELING AIR TUBES.

mounted, and means for transmitting rotary motion to the shaft, and the proper slanting motion to an angle knife whereby the end of the tube is skived or beveled. This is an invention by André Olier, of Clermont-Ferrand, France. The United States patent is No. 918,360.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha for the month of March, 1909, and the first nine months of five fiscal years, beginning July 1:

MONTHS.	Belting, Packing and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
March, 1909	\$157,396	\$57,945	\$351,207	\$566,548
July-February	800,302	1,013,544	2,545,707	4,364,613
Total	\$1,053,758	\$1,071,489	\$2,805,914	\$4,931,161
Total, 1907-08.....	1,040,985	1,342,965	2,802,371	5,186,321
Total, 1906-07.....	914,276	962,964	2,664,967	4,542,207
Total, 1905-06.....	942,654	1,340,602	2,125,551	4,408,807

Development of the Chicle Trade.

THAT things are not always so small as they seem is suggested by the chewing gum business, especially if one considers it only from the retail side—the offering of small packages on every hand for a few pennies each. But as many littles make a mickle, the wholesale trade in this branch has become very extensive. And yet the American people seem never to have bitten off more chicle than they could chew.

Mr. Payne's congress committee, which framed the tariff bill now pending at Washington, gave a hearing to a representative of the American Association of Chewing Gum Manufacturers, who appeared to ask for a reduction of the import duty on chicle gum, if not for its total abolition, and in a brief submitted by this gentleman some interesting details are given in regard to the chewing gum trade. It should be mentioned that this association has no connection with the \$9,000,000 American Chicle Co., which Mr. Charles R. Flint was instrumental in forming ten years ago, on lines similar to those on which the United States Rubber Co. was formed. The American Chicle Co. for several years have distributed well nigh \$1,000,000 annually in dividends, and their shares during a year past have been quoted as high as par for the preference and 205 for the ordinary shares, which maximum prices would mean more than \$12,000,000 for the company's shares. The independent manufacturers, however, are asserted by one of their number, in a statement to THE INDIA RUBBER WORLD, to produce more than half the chewing gum made

The American Association of Chewing Gum Manufacturers, according to its secretary, "embraces the biggest and littlest independent manufacturers in the United States," seventeen of whom are named in his argument before the Payne committee. The same gentleman, when the existing tariff law was being framed, in 1897, appeared for the Chewing Gum Trade Committee, representing eleven independent manufacturers, protesting against the imposition of the import duty of 10 cents per pound which was provided for in the law of that year and has been collected regularly since. This year the chewing gum people said: "We are not here to claim that we are making no money—we are not here to claim that this tax is drawing us out of business; we simply stand by the truth that we are carrying entirely too heavy a burden in this tax." It is pointed out that the sugar used also is subject to an import duty—about 60 per cent. *ad valorem*.

The protest of the consumers of chicle against the import duty of 10 cents a pound is based not alone upon the apparent rate, but upon the fact that the crude material is subject to so high a degree of shrinkage—averaging, perhaps, 30 per cent. Not only moisture, but bark, sand, and the like, must be eliminated before the gum is available in the factory. It is due to this fact that the Canadian trade in chicle has attained such proportions. More than half the chicle imported into the United States is credited to Canada, but this is gum produced in Mexico and Central America. The first shipments by way of Canada were for the purpose of drying it out during the long sea trip, and thereby reducing the weight liable to duty. Later the Canadian factories both of the chewing gum "trust" and of independent concerns, began cleaning the gum for the parent concerns in the United

States, so that to day the importers via Canada pay duty only on refined material.

In the tables accompanying this article it will be seen that since 1897-98 the yearly imports of chicle gum into the United States for consumption have increased from 1,029,957 pounds to 4,070,779 pounds, and the amount of duties collected annually from \$102,996 to \$407,078. These figures have been compiled from official records at Washington. The total imports have been larger, but the interchange of gum between the States and Canada leads to a wide margin between total imports and consumption—not to mention the stocks held, regarding which there are no statistics. In the table showing the sources of the rubber imported, British Honduras figures to an undue extent, since much of the chicle exported through that colony originates really in Yucatan (Mexico) and the neighboring Central American states.

While a chicle "trust" is popularly supposed to exist, it appears that there is no real monopoly of the material. In an article reproduced in THE INDIA RUBBER WORLD December 1, 1907 (page 100) it was stated that the American Chicle Co. "will not at any future time be forced to come into the open market as buyers, their own chicle concessions [in Yucatan] now producing annually much more gum than they can use annually in the same period." The independent manufacturers, however, find no trouble in buying what they need, apart from the fact that prices continue to advance, and this leads to the consideration of substitutes. A recent patent, for example, relates to the use of Pontianak in chewing gum.

How much chewing gum is used it would be impossible to say. Not more than one-half the weight in any case is chicle, and perhaps one-fifth is nearer the average. A million pounds of crude chicle, therefore, losing 30 per cent. in shrinkage and cleaning and mixed with four times its weight in sugar and other ingredients, would figure in 3,500,000 pounds of chewing gum. The consumption is still confined chiefly within the States and Canada. The American exports in a single year have not exceeded \$25,000, the largest amount going to the Philippines, Canada and Panama.

The actual consumption of chicle in the United States in eleven years has been larger than indicated in our table of "imports for consumption," by reason of the exceptionally large imports hurried into the country free of duty just prior to the passage of the Tariff act of 1897. During twelve months of that year no less

(Continued on Next Page.)

UNITED STATES IMPORTS FOR CONSUMPTION.

FISCAL YEARS.	Imports for Consumption.	Average per pound.	Duties collected.	Rate <i>ad val.</i>
1897-98	1,029,957 pounds	13.7 cents	\$102,995.70	72.91%
1898-99	1,163,573 pounds	14.9 cents	\$110,357.30	67.14%
1899-1900	2,274,254 pounds	14.4 cents	\$227,425.40	69.23%
1900-01	1,756,057 pounds	21.7 cents	\$175,605.68	46.16%
1901-02	2,865,920 pounds	23.8 cents	\$280,592.00	41.99%
1902-03	2,865,920 pounds	23.8 cents	\$280,592.00	41.99%
1903-04	3,282,804 pounds	23.7 cents	\$328,280.35	42.13%
1904-05	3,458,839 pounds	29.4 cents	\$345,883.92	33.97%
1905-06	3,847,893 pounds	30.2 cents	\$384,789.30	33.12%
1906-07	4,403,155 pounds	33.7 cents	\$440,315.45	29.65%
1907-08	4,070,779 pounds	36.8 cents	\$407,077.86	27.19%

IMPORTS OF CHICLE INTO THE UNITED STATES (IN POUNDS).

FROM—	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.
Mexico	2,100,879	2,107,894	2,074,228	2,774,532	1,095,911	2,200,599	2,244,115	1,941,679	2,771,630	2,123,030
Honduras	94	9,270	9,449	....	4,979	17,845	10,377	40,101	35,073	30,501
Other Cen. America	....	994	....	....	....	....	....	....	....	2,246
British Honduras	286,060	89,754	86,765	165,285	366,277	635,316	696,842	1,123,120	658,993	622,830
Canada	....	....	997,171	1,634,200	1,872,585	2,170,820	2,108,491	2,533,008	3,260,251	3,307,859
Other Countries	58,028	110	63,158	588	45,995	....	371	3,000	124	3,075
Total	2,445,061	2,297,992	3,140,768	4,574,605	4,282,247	5,084,580	5,060,166	5,641,508	6,732,581	6,089,607

than 5,315,902 pounds came in, or considerably more than two years' consumption at the rate then prevailing, estimated in the trade at less than 2,400,000 pounds. In opposing a duty on chicle at that time the manufacturers asserted that by reason of the duty the speculators would reap a harvest equal to at least \$480,000, before the government would collect any revenue, and which would be in effect a direct grant from the congress.

It is estimated that the average return to the chewing gum manufacturers is 2.2 cents gross per 5 cent package, the remainder going to the jobbers and retailers. Out of the 2.2 cents must come the cost of material, labor, advertising and distributing expense, and profits.

UNITED STATES IMPORT VALUES OF CHICLE (PER POUND).

YEARS.	Value.	Average.	YEARS.	Value.	Average.
1898-99	....\$303,051	14.8c.	1903-04	.. \$1,308,540	25.7c.
1899-1900	.. 354,720	15.4c.	1904-05	.. 1,357,458	26.8c.
1900-01	.... 753,696	23.9c.	1905-06	.. 1,495,366	26.5c.
1901-02	.... 936,065	20.4c.	1906-07	.. 2,139,204	31.7c.
1902-03	.... 954,389	22.2c.	1907-08	.. 2,027,148	33.2c.

EXPORTS OF CHICLE FROM MEXICO (1906-07.)

To Germany	.....pounds	689
To United States	.....	4,009,984
To France	.....	88
To Great Britain	.....	2,548
To British Honduras	.....	752,006
Total	.....	4,765,315

RUBBER SOURCES OF MOZAMBIQUE.

AN interesting report on the collection of rubber in the territory comprised under the concession of the Companhia de Moçambique, in Portuguese East Africa—a region of which Beira is the commercial and political capital—is made by Mr. W. H. Johnson, director of agriculture to the company. Mr. Johnson formerly filled a similar position under the government of the Gold Coast Colony, and is the author of a work of value on "The Cultivation and Preparation of Pará Rubber" (London: 1904).

The output of rubber from the region referred to grew from 43,859 pounds in 1894 to 214,500 pounds in 1905, since which time the production has decreased, though the rate was larger in 1908 than in the preceding year. Mr. Johnson expresses the view that since rubber has been exported continuously from the Beira hinterland for nearly 30 years, and at an increasing rate, it is doubtful "whether the extermination of the sources of wild rubber is as imminent as the promoters of plantation rubber companies would have us believe."

The principal source of rubber in the territories of the Companhia de Moçambique—and it was the only source for some years—is the vine *Landolphia Kirkii*, discovered by and named in honor of Sir John Kirk, now of Kew, and long time British consul general at Zanzibar. *Landolphia Kirkii*, according to Mr. Johnson, is widely distributed, growing within a few yards of the seashore and at all elevations up to 4,000 feet, though its habit is profoundly altered by the different conditions obtained in various districts. In the dry areas of the low country it grows less freely and produces smaller leaves, flowers, and fruits than at higher elevations and where rain is more abundant. In the latter districts *Landolphia Kirkii* develops into an enormous vine with tappable stems often more than a hundred feet in length and 10 to 12 inches in diameter. The bark of old stems is often a half inch in thickness. The latex is white, thick, rich in caoutchouc, and coagulates rapidly on exposure to the atmosphere. The newly coagulated product is pure white, but changes to a pale amber color on drying.

The system which once obtained in cutting up the vines into short pieces for the purpose of extracting the latex has been abolished in the regions controlled by the Moçambique company, and a study has been made of the tapping systems best calculated to conserve the plants. As the majority of the laticiferous vessels

traverse the bark of *Landolphia Kirkii* in a longitudinal direction, a transverse incision taps more vessels than a longitudinal one of the same length. Necessarily the climbing habit of this plant does not allow of the adoption of such methods of tapping and collecting of latex as are employed on plantations of rubber trees. The latex being very thick does not flow readily. Any which is likely to run off the vine on to the ground from a tapping incision is wiped off by the tappers and smeared over their bodies. Both the latter and that left on the vine rapidly coagulates and is wound off by the tappers into small balls or "spindles." It is stated that the collection of rubber from forest vines requires a large amount of agility and dexterity, for many of them are suspended from the branches of high forest trees.

The product of *Landolphia Kirkii* possesses excellent physical properties, as is indicated by the prices obtained for it. Mr. Johnson has been experimenting with a smoking process and the rubber resulting from it was declared by London brokers to be slightly better in both quality and appearance than rubber produced on the same ground and dried without smoking. The smoked samples were rated at 4s. 1d. per pound, and the un-smoked samples at 3s. 11d. to 4s. per pound, when fine Pará was selling at 4s. 2d. per pound.

In addition to *Landolphia Kirkii* several other native rubber species have been discovered in the Moçambique company's territory. *Landolphia florida* abounds there, and while this plant is generally regarded as not yielding a product of commercial value, Mr. Johnson has been treating its latex by boiling and hopes to get from it a marketable commodity. *Ficus Vogelii* is closely allied and similar to *Ficus elastica* (the rubber tree of Assam). It yields latex freely and some of the coagulated product has been valued in London at 2s. per pound. Another rubber tree in the same region is *Mascarenhasia elastica*. It reaches a height of 30 feet, and has a bright dark green foliage, with leaves varying from 3 to 9 inches in length and from 1 to 2 inches in breadth. The latex is white and thick and rapidly coagulates on exposure to the air, resulting in rubber which is only slightly inferior in quality to that of *Landolphia Kirkii*.

Mr. Johnson's report is devoted to a considerable extent to the subject of cultivating Ceará rubber in Africa. The report concludes: "It is evident from the results of this investigation that Ceará rubber of very satisfactory quality and value can be produced in Portuguese East Africa. It now remains to be ascertained whether the yield of rubber obtainable by the use of improved methods of tapping will render the cultivation of the tree remunerative."

In *Cassell's Saturday Journal* (London), Stanley P. Hyatt, a pioneer traveler in a portion of the Moçambique company's territories, says that originally the natives "used to collect the rubber for the purpose of making it into a sort of candle, the most evil smelling illuminant conceivable; then they discovered that the white man wanted it, and traded it to him at a price which allowed him a huge profit." But now the native is not so simple as formerly. "He may be wearing nothing more elaborate than a yard and a half of dirty calico, his head may be plastered with red ochre, and his skin may be as black as soot"—yet the white man nowadays must look sharp in order to avoid being swindled by him.

THE rubber plantation machinery plant, including washer, presses, and drying house, sent to the Coomassie agricultural show by Messrs. David Bridge & Co. (Manchester, England), under the superintendence of Mr. John Bridge, is referred to by a Gold Coast correspondent of *London Tropical Life*, as now being fitted up near Coomassie, where it appears to be doing good work, and its progress is being watched with much interest. The outfit is referred to as having cost more than £1,000. Already better rubber than hitherto has been coming forward from the Gold Coast, and still further improvement is looked for through the use of improved machinery.

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

AS a result of the incorporation and organization of the United Rim Co., an outgrowth of the old Clincher Rim Manufacturers' Association, the final step will be taken toward the complete standardization of automobile tire rims of all makes, and the season of 1910 will undoubtedly see all the rim companies making a product of nearly the same design. The realization of a uniform rim has been the desire of automobile manufacturers for years. The old rim association accomplished the cooperation of the rim manufacturers to the extent that uniform sizes of clinchers were established, but owing to the fact that the detachable features of each make were of a different design, the standardization was not entirely satisfactory. The United Rim Co. was incorporated on April 23 as an Akron company, under the laws of Ohio, by E. C. Shaw, general manager of The B. F. Goodrich Co.; H. E. Raymond, vice-president of the Goodrich company; A. H. Marks, vice-president of the Diamond Rubber Co.; P. W. Litchfield, superintendent of the Goodyear Tire and Rubber Co., and Ernest Hopkinson, representing the United States Rubber Co. The company was incorporated with a capital stock of \$10,000, but H. E. Raymond says it will own no property. Offices will be situated in this city. Douglas Patton, of Akron, and who is not connected with any rubber company, was elected president, E. C. Shaw vice-president, and P. W. Litchfield secretary and treasurer. Several meetings of the company have been held, and progress is being made in the development of a uniform detachable rim that will possess the best features of the Marsh, Goodyear, Goodrich and Midgely rims.

The B. F. Goodrich Co. lost heavily in a fire which destroyed a seven-story power and storage building belonging to the Hower Building, in this city, on May 18. On account of the fact that the Goodrich company were cramped for room in their factory by reason of the removal of several old factory buildings, they had been storing their surplus stock in the Hower building. At the time the fire broke out they had \$225,000 worth of rubber goods in the building, consisting principally of tires, with a quantity of packing fabric. None was saved, but the stock was entirely covered by insurance. The Diamond Rubber Co. had been using the same storehouse, but fortunately had removed some \$20,000 worth of goods a short time before the fire, so that they escape loss. The destruction of the rubber represented a greater loss than that of the building itself.

Engineers of the B. F. Goodrich Co. have been faced by a puzzling problem to replace the factory building containing the milling department without interfering with this important and essential part of rubber manufacture. As a result they have devised a way of bringing about the change without once stopping the mills. The old building is being torn down about the ears of the workmen while they are sheltered by a temporary room. The new fireproof structure, to take the place of the old building, will be built up around the mills, substituting the old walls for the new by degrees.

The B. F. Goodrich Co. claim a victory for their tires in four prominent endurance runs during May held at Pittsburg, Harrisburg, Detroit and New York. In the Detroit race six out of the eight cars with perfect scores were equipped with Goodrich tires. The New York run was a "one gallon efficiency contest" in which each car entered was allowed one gallon of gasoline and the scores computed by multiplying the weight in pounds of each car by the miles covered. The winning car was equipped with the new Palmer Web electric tire, manufactured to secure resiliency. That it distanced the second car by 4,000 "pound miles" is believed by the Goodrich company to prove that resiliency in tires is an appreciable factor in saving power.

The Adamson Machine Co. have started the construction of a new plant in East Akron. It will consist of four buildings—a

machine shop, two stories high, 80x160 feet; a foundry one story high of the same dimensions, and a power house and a blacksmith shop, each 45x80 feet. The company have been heretofore engaged in the manufacture of machinery for rubber-molded goods of all kinds. The new plant will be equipped to manufacture heavier machinery for the rubber industry, and also clay and pottery machinery. Two 40-foot traveling cranes will be installed. The new plant with equipment will cost \$100,000. It is planned to have it completed November 1.

A scheme for the combination of the Swinehart Clincher Tire and Rubber Co. and the Mansfield Rubber Co. was proposed last month, but after considering the proposition the former company decided not to take it up. It was also proposed to move the Swinehart factory to Canton and increase its capital stock by taking in other interests. James A. Swinehart, president of the company, said that no such plan would be carried out. He said that if the company do change their location it will not be this year.

The Diamond Rubber Co. are watching with interest the result of Ed Spooner's exploring tour from Denver to Mexico City in preparation for the "Flag-to-Flag" run to be held in September. Spooner is driving a Chalmers-Detroit car equipped with Diamond tires and Marsh rims. G. A. Wahlgreen, of Denver, has donated a cup for the winner of the contest. The Diamond company also expects to equip a number of the cars in the Cobe trophy race to be held at Crown Point, Indiana, June 18 and 19, with demountable rims. A new type of demountable manufactured by this company was tried out by Joe Tracy, the expert racing driver, on the Vanderbilt course in May by making a run of eight laps around the course at an average speed of 60 miles an hour. He made a complete change of tire and rim on one wheel in 30 seconds, including time taken to stop and start. The former record was 57 seconds. The new demountable rim has been placed on the market and the advantage is claimed for it over former demountables that it can be put on and off the wheel without tools.

Igniter cable as an automobile accessory has been receiving considerable attention by The Diamond Rubber Co. recently. Heretofore the automobile trade has given little consideration to this attachment, but it is the belief of the Diamond company that the successful operation of an automobile engine depends much upon the compounding and manufacture of insulated cable for this purpose.

Mr. Ohio C. Barber, a director of The Diamond Rubber Co., was given a dinner at the Portage County Club in honor of his sixty-eighth birthday on the evening of April 20. The occasion also celebrated his retirement from active business life as president of the Diamond Match Co. F. A. Hardy, of Chicago, president of The Diamond Rubber Co., was present. Mr. Barber will spend his time in farming on his large estate near Akron.

O. J. Woodard has been placed in charge of the sales management of the insulated wire and cable department of The Diamond Rubber Co. He succeeds E. B. Williams, who has gone to the Stein Double Cushion Tire Co. as manager of sales department. O. F. Houben continues as factory superintendent of the Diamond's wire department.

The Diamond Rubber Co. secured the vacation of parts of two streets by the Akron city council, on May 3, in preparation for the erection of a new five-story factory building, announced in last month's INDIA RUBBER WORLD. The company will soon be ready to begin work on the addition.

It is announced that enlargements are to be made to the plant of the Star Rubber Co. of this city during the coming summer. They now manufacture seamless rubber goods. Officers of the company are not ready to make known the details of their plans.

The Falls Rubber Co., of Cuyahoga Falls, Ohio, is a new corporation promoted by E. M. Young. The practical man is to be William Sherbondy, who was with the Goodrich company for 23 years and with the Diamond company when it was

started. The company will make a variety of soft rubber goods.

A dinner was given to Mr. Charles C. Goodrich, of Orange, New Jersey, formerly general manager of works of The B. F. Goodrich Co., by the Men's Club of the Church of Our Saviour, of this city, on the evening of April 20. Mr. Goodrich is junior warden of the church.

A conference of Western branch managers of The B. F. Goodrich Co. was held in Akron on May 17. Managers of the branches in Pittsburg, Cleveland, Chicago and Detroit were present.

The organization of the employes of the Firestone Tire and Rubber Co. was completed during May, with the incorporation of the Akron Rubber Workers' Relief Association. It begins with more than 200 members and will be conducted for social and benefit purposes.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

IT is fortunate that the houses in San Francisco which handle lines of rubber goods do not depend entirely for their business activity on the conditions in San Francisco. Just now this city is not very active, for some reason or other, and the city retailers have been buying sparingly. In the country districts, however, conditions are better. The money has not as yet all come in from the crops, but the crops are so big and excellent this year that every one predicts an unusually busy season for the great farming regions in the interior. As soon as the crops begin to move it is believed that there will be a marked improvement in San Francisco, so that by next fall everything points to a considerable revival of business life and activity. Some of the rubber houses report that business during the past month has been quiet, but all of them report that the outlook is excellent. Some of the dealers have been doing a good business right along and if the reports are correct some of them have enjoyed a great increase in the amount of business done, even during the so-called quiet times.

The Bowers Rubber Works have received another contract from the Isthmian canal commission for dredging sleeves, and work is progressing at the factory at a lively clip, manufacturing these goods. This firm is installing some new equipment—another calendar and some new mills, which necessitates more motors, and altogether the improvements are running up into a large sum of money.

Mr. Rumsey, secretary of the James W. Byrnes Belting and Hose Co., of St. Louis, has been in San Francisco for a few days in the interests of his firm.

The Sterling Rubber Co. report some improvement in the general tone of business. A. R. Ellert will leave soon for a trip to Honolulu, where he will look after new business for the firm and attend to the wants of the old customers. C. A. Tracy, traveling for the Sterling Rubber Co., has recently started on a trip up the northern coast.

The New York Belting and Packing Company, Limited, have opened new offices at No. 129 First street. They carry a full line of mechanical rubber goods.

Mr. J. B. Lippincott, who has been associated with the Boston Woven Hose and Rubber Co. for the past few years, has been visiting in San Francisco, the guest of Joseph V. Selby, the Pacific coast manager of the company. Mr. Lippincott will in the future represent the company's interest in southern California and Arizona.

L. L. Torrey, western manager for the Pennsylvania Rubber Co., states that each month continues to show a good margin of profit and that business activity seems to be increasing all the time. Even collections are getting better. He has added two men to the selling force.

Mr. Grant, manager for the new rubber department of the Eccles & Smith Co., reports that this department has been doing

well and he finds an excellent outlook for the future. This firm is now agent for the Chicago Pneumatic Tool Co. Charles F. Balotti, secretary of the company, is a singer of reputation. Posters are out announcing a concert to be given by him under the management of the Century Hall Club.

Mr. William Regan, formerly of the Phoenix Rubber Co., has gone into business for himself in the typewriter trade.

Mr. William J. Gorham, of the Gorham Rubber Co., reports that business has been rather quiet during the past month, although it is better than at this time last year.

Mr. William Hillman, vice-president and general manager of the Peerless Rubber Manufacturing Co. (New York), is now in San Francisco, accompanied by his wife. This is his first visit to the coast, and after staying a short time in this city will go on south to Los Angeles.

Donald McKay, manager of the Seattle branch of the Diamond Rubber Co., writes to the San Francisco office that his store is enjoying an increased business and that he expects very active times for 1909. He is exhibiting a mountain tread tire that covered 9,127 miles on a tour in the United States and Europe, which during that time was never deflated.

DR. PHILIP SCHIDROWITZ.

A RECENT visitor to the United States was one who has long been known in connection with india-rubber in Europe, Dr. Philip Schidrowitz. Although an Englishman by birth, the Doctor's father was a citizen of the United States, and when he is summoned to this country, which he recently was



DR. PHILIP SCHIDROWITZ, F.C.S.

for expert work, he feels very much at home. Born in the city of London, he was educated at London University, and afterwards went to Zürich, Switzerland, graduating at the Federal Polytechnic Institute there. A year later he took his degree at Berne. His first entry into industrial life was as chemist at an important tar works in England. In 1895 he established his own laboratory in London. His first work was in connection with telephone cables,

but this soon broadened out into general rubber research. He is the author of a number of scientific papers covering special lines. As a member of the Society of Chemical Industry, and indeed, a member of the committee, he has made an enviable reputation as an india-rubber chemist.

VALUE OF BOTANICAL GARDENS.—The history of *Hevea* cultivation in Ceylon affords an excellent example of the usefulness of botanic gardens equipped with proper facilities for the carrying out of experimental work. If the Ceylon gardens had done nothing else during their history than establish this industry they would have more than justified their existence. But, in addition, they were, as is well known, the means of introducing coffee, tea, and cinchona, to take only the more striking instances, all of which plants have played important parts in the economic history of Ceylon.—*Gardeners' Chronicle*.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED APRIL 6, 1909.

- N**O. 916,978. Hose nozzle support. H. F. Boes and J. B. Weirich, Flint, Mich.
 916,984. Liquid sprayer and sprinkler. H. Blyemehl, Chicago.
 916,987. Attachable eraser holder for pencils. A. F. W. Bowen, San Francisco.
 916,992. Rubber cable and tire for vehicles. R. B. Calcutt, Austin, Ill.
 917,001. Wheel. [With an inner and an outer rim, having a plurality of springs between them, and an outer rubber tread.] C. B. Chase, Worcester, N. Y.
 917,071. Pneumatic tire valve. T. B. Huestis, Bristol, R. I.
 917,075. Elastic heel for boots and shoes. C. M. Jagers, McAlester, Okla.
 917,094. Hose coupling. P. A. Walther, Chicago.
 917,228. Vehicle tire grip. E. J. Williams, Salt Lake City, Utah.
 917,276. Apparatus for measuring and indicating blood pressure. F. A. Faught, Philadelphia, assignor to G. P. Pilling & Son Co.
 917,316. Life preserver. J. H. V. Crane, Seattle, Wash.
 917,474. Hose coupling. J. H. Moore, Lambertville, N. J.
 917,493. Tire. [Built up of a plurality of layers of rubbered fabric wrapped one over another, the whole being vulcanized.] H. E. Schindler, Sisseton, S. D.
 917,612. Anti skidding tire. E. Kempshall, London, England.
 917,613. Non skidding tire. *Same*.
 917,637. Packing. N. B. Miller, Philadelphia, assignor to Clement Restein Co.
 917,690. Packing for stuffing boxes. O. R. Weese, Pomeroy, Ohio, assignor of one-half to L. L. Oppenheimer.
 917,733. Tire for vehicle wheels. E. Kempshall, London, England, assignor to Kempshall Tyre Co. of Europe, Ltd.
 917,734. Tire. *Same*.

ISSUED APRIL 13, 1909.

- 917,781. Self inking rubber stamp. L. P. Lowe, San Francisco.
 917,889. Pneumatic tire. B. Nölbner, Breslau, Germany.
 917,958. Process of making tires and tubes. F. A. Magowan, New York city, assignor to Multiplex Tube and Tire Co., Jersey City, N. J.
 917,999. Lawn sprinkler and hose reel. C. Buchler, St. Marys, Ohio, assignor to W. Jaspersen.
 918,032. Hoof pad for horseshoes. T. F. Flaherty, New York city.
 918,149. Hoof pad. W. Heathermon, Kneeland, Wis.
 918,159. Fire hose carrier. H. L. Jenkins, Bridgeport, Conn.
 918,234. Syringe. [Vaginal.] C. F. Welsh, Detroit, Mich.
 918,235. Machine for reeling covered electric wire for vulcanization. W. Wendtland, New York city.
 918,350. Sheathing for tires. J. Marti, Milan, Italy.
 918,360. Machine for beveling air tubes for pneumatic tires. A. Olier, Clermont-Ferrand, France, assignor to Société A. Olier & Cie.

Trade Mark.

- 40,210. Hood Rubber Co., Boston. The representation of a pilgrim's hat. For rubber footwear.

ISSUED APRIL 20, 1909.

- 918,514. Coupling hose. R. M. Dixon, East Orange, N. J., assignor to The Safety Car Heating and Lighting Co.
 918,550. Rubber vehicle tire. C. O. Henderson, Dayton, Ohio, assignor of one-third to W. A. Pickens, Indianapolis, Ind.
 918,565. Nursing bottle holder. G. U. Malpass, Philadelphia.
 918,590. Wire insulating machine. F. D. Platter, Chicago, assignor to Western Electric Co.
 918,684. Tire. [Solid.] N. Macbeth, Dunallan, St. Annes-on-the-Sea, England.
 918,721. Vehicle wheel rim. J. M. Alderfer, Sharon Center, Ohio.
 918,762. Atomizer and nebulizer. C. W. Meinecke, Jersey City, N. J., assignor to Whitall Tatum Co., New York city.
 918,820. Tire for vehicles. D. P. Boyd, Toledo, Ohio.
 918,846. Tire. F. J. Gostlin and L. Mueller, Jr., Akron, assignor of one-third to C. W. Bonstedt, Aultman, Ohio.
 918,858. Detachable pipe and hose coupling. G. James, S. Benson and W. Wilson, Chicago.
 918,943. Portable apparatus and process for vulcanized repairs of pneumatic tires. E. Anselmi, Viterbo, Italy.
 918,973. Balloon cane. F. J. Cregue, Cuyahoga Falls, Ohio.
 919,098. Latex cup. J. Webster, Victorville, Cal.
 919,127. Hose clamp. J. R. Clancy, Syracuse.
 919,135. Inner tube for pneumatic tires. M. Culmore, Houston, Tex.

Trade Mark.

- 28,700. Mineralized Rubber Co., New York. The representation of an anchor within a diamond shaped border. For hot water bottles and rubber surgical goods.

ISSUED APRIL 27, 1909.

- 919,299. Dress shield. K. E. Allport, Chicago.
 919,391. Apparatus for repairing pneumatic tires. W. J. Stark, Salt Lake City, Utah.

- 919,406. Surgeon's glove. Harley W. Warren, Cuyahoga Falls, Ohio.
 919,444. Hose coupling. C. E. Loetzer, Sayre, Pa.
 919,594. Pneumatic tire. J. T. Kennelly, Rawlins, Wyo.
 919,603. Vehicle tire. J. Lend, assignor of one-half to J. Jamison, both of Chicago.
 919,614. Hot water or ice bag. C. W. Meinecke, Jersey City, N. J., assignor to Whitall Tatum Co., New York city.
 919,661. Cushion tire. C. Weiland, Chicago.
 919,717. Dental syringe. H. F. Hamilton, Boston.
 919,737. Lawn sprinkler. L. G. Loomis and P. I. Tuttle, Inglewood, Cal.
 919,743. Hose coupling. H. R. Mason, Wilkinsburg, Pa.
 919,752. Tire shield. Alva V. Nutt, Denver, Colo.
 919,915. Tube [for pneumatic tires]. W. E. Murphy, assignor to C. O. Prince, both of New York city.
 919,938. Protector and reinforcement for pneumatic tires. W. J. O'Neil, Akron, Ohio.
 919,973. Hose clamp applier. W. O. Stein, Pottsville, Pa.
 919,984. Hat saver and hand bag. A. W. Powell and E. K. Lane, New York city.

Trade Mark.

- 40,280. I. B. Klement Rubber Co., New York city. The representation of an infant with a small pet animal. For waterproof diaper covers.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the application, which in the case of those listed below was in 1907 in part, and in 1908.

*Denotes Patents for American Inventions.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL APRIL 7, 1909.]
 26,852 (1907). India-rubber substitute. [Carnauba or like wax, steam distilled, is melted and worked with resin; before cooling, it is subjected to the action of steam.] R. F. H. Suhr, London.
 *26,907 (1907). Pneumatic tire cover formed of layers of fabric and rubber quilted together. F. A. Bragg and D. J. Brown, Springfield, Massachusetts.
 26,926 (1907). Spring wheel with rubber tires other than pneumatic. J. Slee, Earlestown, Lancs.
 26,983 (1907). Hoof pad. A. Del Hoyo y Diez, Madrid, Spain.
 27,058 (1907). Elastic tire. [Tread of solid rubber, with or without a pneumatic cushion between it and the rim.] A. Beldam, Baldock, Herts.
 27,060 (1907). Plastic composition composed largely of sulphur lampblack and mica, for electric insulators and the like. J. Johnson, Bilston.
 27,102 (1907). Heel pad to be worn inside of boots. R. E. Bascombe, Bury St. Edmunds.
 27,259 (1907). Pneumatic tire comprising an inflatable tube between which and the tread is another tube filled with sand. G. A. Bennett and J. A. Smith, Leytonstone.
 27,328 (1907). Rim for pneumatic tires. A. Anthony and J. H. Brownhill, Wolverhampton.
 27,362 (1907). Detachable divided rim for tires. H. Parsons, Southampton.
 27,558 (1907). Rim for pneumatic tires with one-half detachable. L. R. Oswald-Sealy, Bray, County Wicklow.
 27,571 (1907). Solid tire the inner portion of which is of cheaper rubber or compound than the tread. E. Kempshall, London.
 27,584 (1907). Pneumatic tire with sections each equipped with a valve. J. Nash and A. H. Roper, Salisbury.
 27,589 (1907). Billiard cue tip of leather, covered with india-rubber or gutta-percha. W. D. Palmer, Kilmacollm.
 [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL APRIL 15, 1909.]
 27,628 (1907). Surgical syringe. F. W. Ingram, London, and W. Marsden, Hoylake.
 27,630 (1907). Device for allowing the escape of air from a tire, while being filled with a plastic composition, when in place on the wheel. W. J. Thorold, London.
 27,693 (1907). Tire rim with detachable flange. H. C. I. Rich and W. George, Brecon, South Wales.
 *27,703 (1907). Pneumatic tire tread of fabric layers with the wear on the edge. W. D. Harris, Philadelphia, Pennsylvania.
 27,822 (1907). Wheel with rubber tread between which and the rim volute springs are placed. L. Boirault and P. Boucher, Paris, France.
 27,931 (1907). Non-skid studs for pneumatic tires. A. Bodenheimer, London.
 27,954 (1907). Circumferentially divided detachable tire carrying rim. G. Webb, Monmouth.
 27,954 (1907). Pneumatic tire. *Same*.
 27,957 (1907). Pump for inflating motor tires by the motion of the car. C. S. Moore, Edgbaston.
 27,961 (1907). Heel protector. J. E. Audsley of R. & J. Dick, Ltd., Glasgow.
 28,026 (1907). Pneumatic tire in which wire fabrics are embedded. A. Raimon, Paris, France.
 28,085 (1907). Device for preventing solid tires from slipping. W. L. Bragg, London.



A QUAY IN THE HARBOR OF PARA, BRAZIL.—THE GREAT RUBBER PORT.

[From *Bulletin of International Union of American Republics*—Illustrating an article by Major J. Orton Kerbey.]

- 28,087 (1907). Flat tire tread recessed laterally to form a continuous central band. W. G. Skew, London.
- 28,188 (1907). Cement formed of gutta-percha dissolved in a mixture of carbon bisulphide and ether. R. Jensen, High Barnet, Herts.
- 28,190 (1907). Elastic tire comprising metallic tube. S. Willoughby, Kew.
- 28,208 (1907). Stud for tire treads. C. Payne, Cranbrook, Kent.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, APRIL 21, 1909.]
- 28,258 (1907). Puncture preventing band for tires. E. T. Adshead, Orpington, and W. M. Letts, London.
- 28,265 (1907). Composition for automatically sealing air punctures. L. Rogers and A. Myers, Wellington, New Zealand.
- 28,285 (1907). Device for securing tire covers in place. E. L. Burne, Westminster.
- 28,459 (1907). Puncture locator for tires. J. Banner and R. Foulkes, Waterloo, Lancs.
- 28,503 (1907). Sole and heel protector. G. L. Porter, Market Harborough.
- 28,157 (1907). Tire with wide tread. W. W. Beaumont, London.
- *28,545 (1907). Tire of superposed layers of fabric saturated with rubber solution. H. E. Schindler, Sisseton, South Dakota.
- 28,551 (1907). Tire with tubular metal core. L. P. Landtved, Copenhagen, Denmark.
- 28,564 (1907). Tire involving metallic tread. P. Roussillon, Argenteuil, France.
- 28,582 (1907). Heel protector. F. Coufal, Beraun, Bohemia.
- 28,662 (1907). Spring wheel rendered more resilient by a pneumatic cushion protected by an outer rim. J. Corson, Bradford.
- 28,768 (1907). Puncture proof band for tires. F. W. A. Miesch and two others, Birmingham.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, APRIL 28, 1909.]
- 96 (1908). Tobacco pouch. F. Wich (trading as F. Wich & Co.), London.
- 151 (1908). Hose coupling. T. J. Carr, Newcastle-on-Tyne.
- *261 (1908). The manufacture of hollow rubber articles. F. J. Gleason, Walpole, Massachusetts. [Described in *THE INDIA RUBBER WORLD*, May 1, 1909—page 291.]
- 285 (1908). Detachable tire carrying rim. T. Dunn, and Elastes Co., Westminster.
- 319 (1908). Heel protector. J. Griffin and W. J. Hawkins, London.
- *324 (1908). Electrically heated hot water bottle. H. W. Christian, Long Beach, California.
- 334 (1908). Rim for pneumatic tires. R. Kronenberg, Ohligs, Germany.
- 335 (1908). Pneumatic tire. Same.
- 396,149 (Nov. 10). V. Daussy. Pneumatic tire.
- 396,257 (Sept. 30). Auberge. Elastic heel for pneumatic tire.
- 396,322 (Nov. 11). Dupovie. Air chamber for pneumatic tires.
- 396,324 (Nov. 12). Marsovsky and Marsfalva. Process for the manufacture of pneumatic tires in rubber and metal.
- 396,388 (Nov. 14). J. M. Serme. Wheel with pneumatic center.
- 396,445 (Sept. 30). Laffarque. Removable rim for tires.
- 396,459 (Nov. 18). J. Hoffmann. Soft rubber tire.
- 396,300 (Oct. 31). A. Joly. Process for the purification of rubber.
- 396,665 (Feb. 1). R. de Prandieres. Elastic tire.
- 396,620 (Jan. 30). N. Lamy. Dynamothermic process for the vulcanization of rubber.
- 396,751 (Nov. 14). Rose and Brindle. Elastic tire.
- 396,808 (Nov. 27). C. Beau. Protector for tires.
- 396,873 (Nov. 28). Continental Caoutchouc-und Guttapercha-Compagnie Elastic tire.
- 396,972 (Oct. 30). J. E. Leroy. Pneumatic tire.
- 396,814 (Nov. 27). K. Lengfeller. Elastic substance resembling caoutchouc.
- 397,153 (Dec. 7). British Insulated and Helsby Cable, Ltd. Process for the manufacture of tires and analogous objects.
- 397,190 (Dec. 8). F. Woodgates and Jourdan. Repair pieces for pneumatic tires.
- 397,196 (Dec. 8). J. C. Hancock and Thompson. Rubber heel.
- 397,272 (Dec. 9). E. B. Killen. Tire and method of attachment.
- 397,352 (Dec. 12). Sills and Carman. Tire protector.
- 397,367 (Dec. 12). G. de Nottbeck. Air tube for tires.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villier, Paris, at 50 cents each, postpaid.]

In the United States *Daily Consular and Trade Reports* (No. 3,437) the consul general at Calcutta reports on recent experiments with milk from a plant abundant in the lower Himalayan region, popularly described as a cactus, which yields what strongly resembles gutta-percha and apparently possesses insulating qualities. It is believed in India that this plant, hitherto regarded as useless, will be found to have a considerable value. Consul General Michael identifies the plant with what is described in Watt's "Commercial Products of India" as *Euphorbia Royleana* (Boiss), though the cactus family in general is comprised outside of the *Euphorbiaceæ*. Watt wrote: "The milky sap of this plant contains a large amount of gutta-percha."

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

- 393,090 (Nov. 9, 1908). F. Lüdecke. Elastic tire.
- 395,135 (Jan. 16). B. Roux. Blocks of natural or regenerated rubber in layers of different densities.



OFFICERS AND DIRECTORS OF THE UNITED STATES RUBBER COMPANY.

1—Samuel P. Colt (president), 2—E. C. Benedict, 3—Lester Island (second vice president), 4—John J. Watson, Jr. (treasurer), 5—Anthony N. Brady, 6—James B. Ford (first vice president), 7—Walter S. Ballou, 8—Homer E. Sawyer (general manager), 9—William H. Moore (photo copyright by Mishkin), 10—John D. Vermeule, 11—Frederick M. Shepard, 12—Henry L. Hotchkiss, 13—Francis Lynde Stetson, 14—Frank S. Hastings, 15—Harry E. Converse, 16—J. Howard Ford, 17—John D. Carberry (assistant secretary), 18—Samuel Norris (secretary), 19—Arthur L. Kelley, 20—W. G. Parsons (assistant treasurer), 21—Francis L. Hime, 22—W. H. Truesdale, 23—Edward R. Rice (manager of sales).

United States Rubber Co.'s Annual.

THE seventeenth annual meeting of shareholders of the United States Rubber Co., incorporated under the laws of New Jersey, was held at the registered offices of the company in that State, at New Brunswick, on May 18. The operations of the company during the last business year and its condition at the close of the year are indicated in the annual reports of officers, as read and approved, and which are presented here.

PRESIDENT'S REPORT.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: Your president submits this, the seventeenth annual report of the company, for the fiscal year ending March 31, 1909

Treasurer's Report.—The results of the operation of the company and its subsidiary companies are shown by the consolidated income statement which follows. The balance sheet sets forth the financial condition of the company and its subsidiary companies, at the close of business March 31, 1909. The income statement shows that while, owing to the general commercial depression, our volume of sales decreased, as compared with the previous fiscal year, our profits increased from \$3,553,556.14 to \$4,507,655.39, and that the earnings from operations have been sufficient for the payment of the regular 8 per cent. dividend on the first preferred stock and 6 per cent. on the second preferred stock, leaving surplus earnings of \$1,008,715.39 for the year. In view of these conditions this has been deemed by your directors a proper time to make a substantial charge for depreciation against properties, plant accounts and securities owned, and, as is shown by the statement of income, we have made a charge against surplus account of \$1,354,890.82.

Inventories.—Our inventories of manufactured goods are

TREASURER'S REPORT.

UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES.
CONSOLIDATED GENERAL BALANCE SHEET, MARCH 31, 1909.

[Not including assets or liabilities of Rubber Goods Manufacturing Co., or of its subsidiary companies]

ASSETS.

Property and plants (including shares of R. G. M. Co.)		\$74,645,236.38
Inventories manufactured goods and materials	\$13,522,023.82	
Cash	1,985,543.74	
Bills and loans receivable	830,399.58	
Accounts receivable	9,247,818.25	
Securities owned	6,372,892.38	
Miscellaneous assets	85,604.66	32,044,282.43
Total assets		\$106,689,518.81

LIABILITIES.

Capital stock, first preferred	\$36,263,000.00	
Capital stock, second preferred	9,965,000.00	
Capital stock, common, \$25,000,000.00		
Less common stock in treasury of subsidiary company	1,334,000.00	23,666,000.00
		\$69,894,000.00
Ten-year 6% collateral trust sinking fund gold bonds		15,000,000.00
Loans and notes payable	\$1,797,977.55	
Merchandise accounts payable	569,861.90	
Due General Rubber Co.	4,268,896.41	6,635,835.86
Deferred liabilities not yet due		311,459.43
Reserve for dividend		874,735.00
Fixed surpluses (subsidiary companies)		8,134,849.37
Surplus		5,838,639.15
Total liabilities		\$106,689,518.81

[The contingent liability for certain guarantees, which are offset by corresponding contingent assets, are not included.]

taken at figures considerably below the present cost of manufacture and our crude rubber and raw materials on hand at figures below the market price March 31.

Sales.—It is a source of satisfaction to know that, while our sales for the past year fell off, the number of our customers increased, and that the falling off in sales is largely due to the general conditions prevailing throughout the country.

Organization.—During the year much attention has been given to bettering the condition of our subsidiary companies and raising the standard of efficiency of our organization, from which the company should benefit in the future.

Refunding.—The company has created an issue of \$20,000,000 of collateral trust bonds, of which \$15,000,000 have been sold, \$5,000,000 being reserved for future requirements of the company. Out of the proceeds of the bonds sold, we have called and paid the issue of United States Rubber Co. funding notes of \$8,000,000, and the issue of Boston Rubber Shoe Co. debentures of \$4,500,000, the remainder being employed as working capital.

General Rubber Co.—The advantage to our company of the General Rubber Co., with its branch houses, has been apparent during this year.

Rubber Goods Manufacturing Co.—Owing to the large interest of this company in the Rubber Goods Manufacturing Co., I quote from the last annual report of its president, as follows:

"For the year 1908, the total sales, as compared with 1907, showed a decrease of less than 14 per cent. The earnings were \$2,203,519.19, as compared with \$2,371,827.44 for 1907, a decrease of about 7 per cent. Thus it appears that while the volume of the business of your company has been affected during the year by general conditions existing throughout

CONSOLIDATED INCOME STATEMENT FOR THE YEAR ENDING MARCH 31, 1909.

Gross sales, boots and shoes and miscellaneous	\$46,403,254.26
Net sales, boots and shoes and miscellaneous	\$31,889,351.34
Cost of goods sold	24,616,391.54
Manufacturing profits	\$7,272,959.80
Freight, taxes, insurance, general and selling expenses	1,664,609.09
Operating profits	\$5,608,350.71
Other income, including dividends received on stock of Rubber Goods Manufacturing Co.	1,157,787.84
Total income	\$6,766,138.55
<i>Less:</i>	
Interest and commission on funding notes and borrowed money	\$1,728,650.45
Interest on Boston Rubber Shoe Co. debentures	218,125.00
Interest allowed customers for prepayments	247,161.48
	2,193,936.93
Net income to surplus	\$4,572,201.62
Deductions for bad debts, etc.	64,546.23
Net profits	\$4,507,655.39
Dividends	3,498,940.00
Surplus for period	\$1,008,715.39
Surplus April 1, 1908	6,184,814.58
	\$7,193,529.97
Deductions from surplus for depreciation of properties, plant accounts and securities owned	\$1,354,890.82
Surplus March 31, 1909	\$5,838,639.15

JOHN L. WATSON, Jr., Treasurer

the country, the profits have not been correspondingly decreased.

"The larger part of the decrease in sales in 1908 was due to a falling off in the railroad demand for air-brake hose, steam hose and other material, a demand which recently has decidedly improved.

"The automobile tire business increased, the sales having been the largest of any in the history of the company, and a still larger volume for the year 1909 is indicated by the present condition of orders. Owing to the greater demand for our tires, it has been necessary to enlarge the capacity of the plants where the 'Hartford,' 'Morgan & Wright' and 'G & J' tires are manufactured, and we are confident that the tires manufactured by these companies continue to be the best on the market.

"All of the plants of the company have been maintained in excellent condition, and in many instances extensive improvement and additions have been made."

Stockholders.—Our list of stockholders now numbers 6,300, an increase of 1,055 during the year. We have endeavored to make our stockholders more intimately acquainted with the conduct of our business, and have, during the year, called their attention to brands of rubber footwear and automobile tires which are manufactured by our various companies, endeavoring to secure their co-operation and influence in building up and making more valuable the properties in which they are interested.

Respectfully submitted,

SAMUEL P. COLT, President.

New Brunswick, New Jersey, May 18, 1909.

THE ANNUAL ELECTION.

Two new names appear in the list of directors chosen this year. The late Charles H. Dale is succeeded by Edward Rice, the company's manager of sales. The number of directors has been increased to twenty, and the new position on the board filled by the election of William H. Moore, of New York, a director in the United States Steel Corporation, the First National Bank of New York, and various railways and other important companies. The board is now composed as follows, the figures indicating the number of successive annual elections of the respective directors:

Walter S. Ballou, Providence, Rhode Island. [7.]
 Elias C. Benedict, No. 80 Broadway, New York. [8.]
 Anthony N. Brady, No. 54 Wall street, New York. [6.]
 Samuel P. Colt, Bristol, Rhode Island. [18.]
 Harry E. Converse, Boston, Massachusetts. [12.]
 James B. Ford, No. 42 Broadway, New York. [18.]
 J. Howard Ford, No. 42 Broadway, New York. [18.]
 Frank S. Hastings, No. 80 Broadway, New York. [5.]
 Francis L. Hine, No. 2 Wall street, New York. [7.]
 Henry L. Hotchkiss, New Haven, Connecticut. [18.]
 Arthur L. Kelley, Providence, Rhode Island. [4.]
 Lester Leland, Boston, Massachusetts. [11.]
 William H. Moore, No. 71 Broadway, New York. [1.]
 Edward R. Rice, No. 42 Broadway, New York. [1.]
 Homer E. Sawyer, No. 42 Broadway, New York. [4.]
 Frederick M. Shepard, No. 787 Broadway, New York. [18.]
 Francis Lynde Stetson, No. 15 Broad street, New York. [8.]
 William H. Truesdale, No. 26 Exchange place, New York. [5.]
 John D. Vermeule, No. 503 Broadway, New York. [13.]
 John D. Watson, Jr., No. 42 Broadway, New York. [5.]

The newly elected board met in New York on May 21 and after organizing reelected the following officers and executive committee:

President—SAMUEL P. COLT.
First Vice President—JAMES B. FORD.
Second Vice President—LESTER LELAND.
General Manager—HOMER E. SAWYER.
Treasurer—JOHN J. WATSON, JR.
Assistant Treasurer—W. G. PARSONS.
Secretary—SAMUEL NORRIS.
Assistant Secretary—JOHN D. CARRERY.

The executive committee consists, as hitherto, of Samuel P. Colt, James B. Ford, Lester Leland, E. C. Benedict, Walter S. Ballou, Anthony N. Brady, and John J. Watson, Jr.

BUSINESS OF THE COMPANY.

THE following table, showing the amount of net profits of the United States Rubber Co. and the amounts disbursed in dividends since the organization of the company, has been compiled from the printed reports of the successive treasurers of the corporation:

YEAR ENDING—	Net Profits.	Dividends.
March 31, 1893.....	{ [Not Published.]	
March 31, 1894.....		
March 31, 1895.....	\$2,716,370.00	\$2,056,190.00
March 31, 1896.....	2,339,790.60	1,552,040.00
March 31, 1897.....	1,999,611.34	1,552,040.00
March 31, 1898.....	2,070,750.41	1,552,040.00
March 31, 1899.....	3,226,513.46	1,882,040.00
March 31, 1900.....	3,007,887.54	2,828,680.00
March 31, 1901.....	62,605.57	705,765.00
March 31, 1902.....	deficit	none
March 31, 1903.....	1,594,908.16	none
March 31, 1904.....	1,575,641.29	none
March 31, 1905.....	3,761,922.63	1,882,040.00
March 31, 1906.....	3,881,270.23	2,846,092.00
March 31, 1907.....	4,590,382.72	3,485,956.00
March 31, 1908.....	3,553,556.14	3,495,448.00
March 31, 1909.....	4,507,655.39	3,498,940.00

The net profits, reported above, prior to March 31, 1902, are for the United States Rubber Co. alone, in its distinct corporate capacity. In the year in which a deficit occurred in the accounts of the parent company, it is understood that in the aggregate the business of the subsidiary companies would have shown a surplus. For the subsequent years the figures are derived from consolidated reports of the "United States Rubber Co. and Subsidiary Companies," covering their total income, but not including details for the Rubber Goods Manufacturing Co.'s transactions further than the dividends from the latter accruing to the United States Rubber Co. during the last four years. The dividends paid in 1900-01 were declared in the first half of the year, when the condition of the company appeared better than later proved true, the net result being a reduction of the surplus.

UNITED STATES RUBBER CO.'S SHARES.

TRANSACTIONS on the New York Stock Exchange for four weeks, ending May 22:

COMMON STOCK.

Week May 1	Sales	1,300 shares	High	33 $\frac{1}{4}$	Low	32 $\frac{5}{8}$
Week May 8	Sales	32,200 shares	High	40	Low	32 $\frac{5}{8}$
Week May 15	Sales	17,730 shares	High	40 $\frac{3}{4}$	Low	38
Week May 22	Sales	4,100 shares	High	39 $\frac{3}{4}$	Low	38 $\frac{1}{4}$
For the year—High, 40 $\frac{3}{4}$, May 10; Low, 27, Feb. 24.						
Last year—High, 37 $\frac{1}{2}$; Low, 17 $\frac{1}{2}$.						

FIRST PREFERRED STOCK.

Week May 1	Sales	500 shares	High	104 $\frac{3}{4}$	Low	104 $\frac{1}{4}$
Week May 8	Sales	23,746 shares	High	111 $\frac{3}{4}$	Low	104 $\frac{1}{2}$
Week May 15	Sales	7,575 shares	High	112	Low	110
Week May 22	Sales	2,538 shares	High	111	Low	110
For the year—High, 112, May 10; Low, 98, Jan. 29.						
Last year, High, 108; Low, 76.						

SECOND PREFERRED STOCK.

Week May 1	Sales	500 shares	High	72	Low	72
Week May 8	Sales	5,900 shares	High	78 $\frac{1}{2}$	Low	71 $\frac{1}{2}$
Week May 15	Sales	2,700 shares	High	78	Low	78
Week May 22	Sales	1,525 shares	High	78 $\frac{3}{4}$	Low	78
For the year—High, 79, May 10; Low, 67 $\frac{1}{2}$, Feb. 25.						
Last year—High, 75 $\frac{1}{2}$; Low, 42.						

SIX PER CENT. CERTIFICATES.

Week May 8	Sales	128 certs.	High	104 $\frac{1}{4}$	Low	104 $\frac{3}{8}$
Week May 15	Sales	50 certs.	High	104 $\frac{1}{2}$	Low	104 $\frac{3}{8}$
Week May 22	Sales	142 certs.	High	104 $\frac{1}{2}$	Low	104 $\frac{3}{8}$

A CANKER disease affecting *Funtumia elastica* has been brought to the notice of the authorities at Kew, and is reported on in the *Bulletin* (No. 3—1909). The fungus causing it has been identified by G. Masee as *Nectria funtumia*. It is believed that remedial measures similar to those undertaken in Ceylon, where the *Hevea* rubber has been attacked by another species of *Nectria* with good results, will prevent the spread of the disease in the case of *Funtumia*.

The Late Eben H. Paine.

THE news of the death of Eben H. Paine, cabled from London on the morning of May 8, not only filled the rubber trade with profound regret, but there was added the shock of its being so unexpected, since only a very few persons had had an intimation of his illness.

Mr. Paine had just entered upon his fifty-fifth year, having been born on April 28, 1855, but owing to the sturdy constitution which he had inherited from long-lived ancestors at Jay, in western Maine, he retained to the end the appearance of a much younger man, with the same vitality and energy that always had characterized him. He was the son of Joel and Evaline (Humphrey) Paine, who both reached an advanced age. The INDIA RUBBER WORLD in 1894 chronicled the sixty-third anniversary of their wedding.

At the time that Eben Paine as a boy left his village home to make a career for himself, Robert D. Evans and the late Charles M. Clapp were interested in the rubber trade in and near Boston in various ways. It is believed that he first found employment with the firm Clapp, Evans & Co. One of the concerns formed by these gentlemen was the American Rubber Co., of which Mr. Evans was the principal founder, and which started in 1873 as a jobbing concern. In 1877 this company established a factory at Cambridgeport, Massachusetts, and Mr. Paine, who already had been in their employ as a salesman, was put in charge of the New York selling agency. Later he was called to Boston as chief selling agent of the American Rubber Co., which continued to grow until it was one of the largest and most successful rubber footwear firms in existence.

The American Rubber Co. was included in the original plan of organization of the United States Rubber Co., and Mr. Evans was the first president selected by the latter. This was in 1892. Mr. Paine at once became one of the chief selling agents of the new corporation; in 1895 he was placed in charge of the New York selling agency, and in May, 1901, was made manager of sales of the whole company. Increasingly successful in his field all the while, Mr. Paine was next placed in charge of developing the export trade in footwear. On July 3, 1907, he sailed for London to fill the position of advisory director of the United States Rubber Co., Limited, the European branch of the company he had so long represented. He had since been active in the new field, visiting the leading trade centers in person, and everywhere forming friendships by reason of the same pleasing personality that had made him so well liked in his own country.

Mr. Paine had made one visit to the States since taking his post abroad, and was expected to make another this summer. News of his illness first reached New York four or five days before the end—reported to be a result of ptomaine poisoning, followed by nervous collapse. Mr. Paine married Miss Harriet A. Wright, of Cambridge, Mass., who survives, and he left two sisters, Mrs. Dr. E. H. Stevens, of Cambridge, and Mrs. Asaph Leach, of Whitman, Mass.

Few men in the American rubber trade in the last twenty years were better known than Eben Paine. In all of the great centers of trade he had hosts of acquaintances and scores of friends. Possessed of abundant vitality, he was energetic, breezy, shrewd. Where the broad practical joke was esteemed the high-

est type of wit, he was a rollicking practical joker; where a well-told story or a witty reply was most appreciated, he was always ready. As a business man he was more than ordinarily capable, and as an adjuster of differences, between buyer and seller, he was forceful, fair and wonderfully convincing. In his special line, rubber footwear, his knowledge of the business was encyclopedic. He will long be remembered and mourned by a wide circle of business men to whom he was always "Eben"—the capable, optimistic and wellcome visitor.

J. OTIS MINOTT.

JOSEPH OTIS MINOTT died in Paris, France, on May 14, of pneumonia, in his forty-sixth year. He was a son of the late Joseph Albert Minott, who spent forty-two years in the india-rubber trade in New York, and was one of the founders of the Goodyear Rubber Co., with which he was connected at the time of his death. Joseph Otis

Minott was born in Orange, New Jersey. He studied art in the United States, subsequently carried on his studies under the European masters, and for seven years past had spent most of his time in Paris. His specialty was painting miniatures. John Sargent is quoted as saying that he was without an equal in this branch of art. At the time of his death he was under an agreement to paint the miniatures of King Edward and Queen Alexandra. His studio was in Paris, but he had a house in St. James's square, London, as well as an address in New York. Mr. Minott was a director in the Goodyear Rubber Co., of which one of his three surviving brothers, Frederick Shepard Minott, is now secretary. He was also a director of the Orange Water Co. in New Jersey.

CHARLES D. DESHLER.

CHARLES DENTHAM DESHLER, who died at his home at New Brunswick, New Jersey, on May 10, was the father of James



THE LATE EBEN H. PAINE.

Deshler, so long connected with the rubber industry in the same town, and now in charge of the local factory of the United States Rubber Co. Charles D. Deshler was born at Easton, Pennsylvania, 1819, but removed to New Jersey when a young man and became employed in journalism. Later he was connected with *Harper's Magazine*, was county superintendent of schools, connected with various corporations, and some time postmaster at New Brunswick. One of his sons is Charles Deshler, of the General Electric Co., at Harrison, New Jersey. Besides those named he is survived by two sons and three daughters.

JOHN A. SLOAN.

THE portrait of the late John Austin Sloan, of Trenton, New Jersey, which appears on this page, was not published earlier on account of the difficulty of obtaining the same. He had just passed his thirty-sixth birthday at the time of his sudden and unexpected death as the result of an operation at the University Hospital, Philadelphia. He had, however, been connected nearly half his life with the Mercer Rubber Co., of Trenton, joining the staff there at a time when his uncle, Mr. J. S. Austin, was a



THE LATE JOHN AUSTIN SLOAN.

shareholder in the company. He learned by experience the various processes of manufacturing mechanical rubber goods and became a very valuable man to the company, becoming superintendent of their mill and secretary of the corporation. He was the inventor and patentee of the Anchor tile. Mr. Sloan is survived by a widow.

C. R. WINSLOW.

CHAUNCEY R. WINSLOW, who died on May 16 at his home in Portland, Oregon, had been connected with the rubber trade throughout his life. Born in Cincinnati, Ohio, he went to Malden, Massachusetts, at the age of about 20 years, and entered the employ of the Boston Rubber Shoe Co., for whom he opened later an agency in San Francisco. Conducting business under the name of C. R. Winslow & Co., he built up a large trade on the Pacific coast, with branch houses at Seattle and Portland, in which latter city he made his home.

WALLACE F. FOSTER.

WALLACE F. FOSTER, who died in New York on April 24, was born about forty-four years ago at Brewster, Massachusetts. He was the son of a sea captain who was lost in the middle of the Pacific ocean by the burning of his vessel. Wallace Foster about 1892 entered the employ of the Boston Woven Hose and Rubber Co. as shipping clerk. He worked his way up, through persistence, devotion to business, and his own interest, until 1896,

he was given a position as traveling salesman in New England. In a short time he was made manager of the Boston office, and in November, 1900, was again promoted, taking charge of the New York branch, of which he continued to be manager until just before his death. He resigned this position, and THE INDIA RUBBER WORLD only a month ago, reported the presentation to him by his office associates of a loving cup as a testimonial of their esteem. The following is a copy of the tribute to Mr. Foster adopted by the New England Rubber Club:

Whereas, The members of the New England Rubber Club have lost by death their friend and associate, Wallace F. Foster, who for the past seventeen years has served one of our leading companies in its branch of the business and who by his energy, industry and ability attained a position of trust and responsibility in the trade, and by his genial and loyal personality endeared himself to those with whom he came in contact; it is hereby

Resolved, That this club extend to his family its deep and sincere sympathy.

Resolved, That these resolutions be spread upon the records of the club and a copy engrossed and sent to his family.

ALEXANDER M. PAUL,
GEORGE P. WHITMORE,
ELSTON T. WADBROOK,
Committee on Resolutions.

CONDITION OF THE ELECTRIC TRADE.

THE General Electric Co.'s seventeenth annual report, for the year ended January 31, 1909, shows profits of \$4,802,252.67. Dividends amounted to \$5,214,026, the difference being charged to surplus. Orders received by the company were only 70 per cent. of those for each of the two preceding years, and the shipments to customers only 63 per cent. of the shipments for 1907. There was an improvement in conditions through the year, which has continued since January 31. It was not possible to cut down expenses in keeping with the reduced business, so that during the year the company expended 93½ cents out of every \$1 of gross sales for cost of manufacture, including depreciation, new construction, patent litigation, etc. In 1901, nine years ago, the company was able to save 22 cents out of every dollar of gross revenue for interest and dividends. The company's outstanding capital is \$65,178,800, and the debentures amount to \$14,963,000.

The report of the Canadian General Electric Co., Limited—formerly controlled by the General Electric Co.—for the year ending December 31, 1908, shows profits of \$753,088, comparing with \$722,433 in the previous year and \$853,675 record earnings of the banner electrical year—1906. The nine year record of 10 per cent. annual dividends on the common stock was broken in 1908 through the declaration of only 7 per cent. During the three months beginning January 1 last more orders were secured than during the same period of the preceding year, and a continued improvement in business is confidently looked for.

The Deutsch-Atlantische Telegraphen-Gesellschaft, operating a cable service between Germany and New York, report a favorable return for the business year 1908, despite the business depression in America. The net profits were only £128,923, against £155,902 in 1907, but unusual cable repairs alone account for about £19,000 of the difference. The dividend was the same in both years—7 per cent. The company own half the capital in Norddeutsche Seekabelwerke Aktiengesellschaft, at Nordenham. These works have been busy building the new German cable to Brazil [see THE INDIA RUBBER WORLD, April 1, 1909—page 260], an important section of which was laid recently, and is expected to continue so until June, 1910. The cable making company's 4 per cent. dividend for the business year 1908 was not included in the accounts of Deutsch-Atlantische Telegraphen-Gesellschaft reported in this article.

Negotiations have been opened looking to the construction of a submarine cable line to connect Argentina directly with Europe via Ascension island. The plan is proposed by the Western Telegraph Co., an important English company already operating a transatlantic cable landing at Pernambuco, Brazil.

THE REED GOLDEN WEDDING.

THE golden wedding of Mr. and Mrs. Henry A. Reed was celebrated on the evening of May 14 at their residence, No. 88 North street, Roseville, Newark, New Jersey. Mr. Reed has long been identified with the Bishop Gutta-Percha Co. (New York), of which he is now president, regularly devoting attention to business.

Henry Augustus Reed and Miss Alice Amelia Boardman were married at Poughkeepsie, New York, fifty years ago. Already Mr. Reed had become proficient in the then new art of telegraphy, although at the date of his marriage he was interested in a bookstore. Mr. Reed's interest in telegraphy continued, however, and he was in charge of the Poughkeepsie telegraph office at the time of the outbreak of the Civil War. When Fort Sumter was fired upon, April 12, 1861, Mr. Reed received the news in his office. By his side was Admiral Farragut, anxious and expectant. When Mr. Reed told Farragut the contents of the dispatch the admiral remarked: "That means that I must go to Norfolk at once. I have many friends there, but if duty requires, I will blow up the city."



HENRY A. REED

Upon the death of Samuel C. Bishop, proprietor of the pioneer gutta-percha factory in America, Samuel Boardman, as executor of his estate, took control of the business, in which he had the assistance of his brother-in-law, Mr. Reed, as an expert accountant. Mr. Reed's knowledge of electricity was also of value in this connection, particularly in respect of certain litigation pending over an insulation patent. Upon the organization of the Bishop Gutta-Percha Co., in 1885, Mr. Reed was elected secretary. Two years later he was made manager of the company; in 1893 he was elected treasurer, and in 1905 president. His three sons—William Boardman, Henry Douglas, and Louis F.—are now respectively treasurer, vice-president and secretary of the Bishop company, and the family hold the greater part of the capital stock.

The celebration of the anniversary began with a luncheon at the home of Mr. and Mrs. Reed at 2 P. M., for the relatives and friends who were present at the wedding in 1859. Among those present were two of the bridesmaids, Miss A. Julia Reed, a sister, of Carmel, New York, and Mrs. Frederick A. Sawyer, of Garden City, Long Island. Three brothers of Mr. Reed were present with their wives; another brother and sister-in-law were

unable to attend. At the luncheon the anniversary gifts were presented. Mr. Reed's gift to his wife was a diamond brooch. The children presented him with a diamond ring and Mrs. Reed with a gold belt buckle. The presents included a Tiffany vase from the office force of the Bishop Gutta-Percha Co., and the factory employes were represented. There was a handsome present—a dozen gold encased finger bowls from Tiffany—contributed by members of a number of firms in the rubber covered wire trade, Mr. Reed's business competitors, and a Tiffany mahogany chime clock from thirty members of the Presbyterian church at Roseville, of which Mr. Reed and his family are members. A reception in the evening was largely attended.

Mr. and Mrs. Reed were married on the forty-eighth anniversary of the wedding of the latter's parents, in Manchester, England. They lived together for 60 years, while Mr. Reed's parents lived together for 63 years. Both Mr. and Mrs. Reed attended the golden weddings of their parents. Mr. Reed was 80 years old in February last and his wife 74 in April, and they celebrated their birthdays in Florida.

NEW TRADE PUBLICATIONS.

THE principle of specializing in production so general in the United States applies to the manufacture of machinery even to a greater extent, perhaps than in almost any other line, which thought is suggested by the new "Bulletin" issued by the FARRELL FOUNDRY AND MACHINE CO. (Ansonia, Connecticut), who so long have devoted themselves to supplying rubber factory equipment for use both at home and abroad. The firm here named make machinery for every branch of the rubber industry, but the publication before us is devoted solely to "Rubber Shoe Machinery," and the fact that it contains illustrations of no fewer than 28 different machines and appliances, many of them of special design, indicates the wide scope which now obtains in the shoe machinery field. Of course, the washers and grinders would be equally applicable in other lines of the rubber manufacture, but they are all embraced in this bulletin to make it a complete catalogue of equipment for a rubber footwear factory. [8" X 10 1/4". 33 leaves.]

BIRMINGHAM IRON FOUNDRY (Derby, Connecticut), in view of there being several distinct classes of rubber mill machinery, each including a variety of types and sizes, do not regard it expedient to illustrate and describe them all in permanent bound form, but issue from time to time circulars such as may be of special interest to individual inquirers. A collection of such circulars recently issued contains illustrations of no fewer than 53 machines from which might be chosen equipment for a very complete mechanical rubber goods factory [9 1/4" X 7 1/2". 64 leaves.]

VOORHEES RUBBER MANUFACTURING CO. (Jersey City, New Jersey) devote their latest illustrated catalogue principally to rubber and cotton Fire Hose, of which they are very large manufacturers under the specifications of the Underwriters and the United States Navy. There are included also various fire department appliances, and reference is made to various other rubber goods made by this company. [5" X 7". 28 pages.]

CHARLES E. MILLER (New York) issues for 1909 his annual Automobile Catalogue which, in addition to the leading makes of tires, lists such a variety of automobile accessories of rubber as to suggest that the products of the rubber factory called for by the motoring interest are far from being confined to tires. [7 1/4" X 9". 236 pages.]

PHOENIX AUTO SUPPLY CO. (St. Louis), in their Catalogue No. 5, for 1909, list as large a variety of tire and automobile accessories as any other catalogue in this field which we have seen. Not the least interesting suggestion which comes from an inspection of this catalogue is that a house catering particularly to the Western trade finds itself justified in carrying so large a line of automobile supplies. [8 3/4" X 10 1/2". 144 pages.]

The Deresination of India-Rubber—II.

By H. O. Chute.

AMONG the earliest American patents in relation to the deresination of rubber are those using processes which depend on the action of alkali on the resins. No. 756 and No. 757, issued to Austin G. Day, June 12, 1859, are a reissue of patent No. 15,067, issued June 10, 1856. The patent specification describes a process of purifying rubber gums by treating them with alkaline solutions, but resins are not mentioned as being contained in rubber. In 1857 Robert Haerting received patent No. 17,214 in which he states: "My invention consists in submitting gutta-percha to the action of an alkaline liquor, which dissolves out the etheric oil," which probably refers to the resins. In 1893 a patent was granted to Paul Biersdorf, (No. 508,560), for a process of treating gutta-percha, in which the gutta was deprived of "the whole of its resinous contents by solution in alcohol." The process of deresinating gutta-percha seems to have been well known and largely practised in England in 1897, for in that year in one of the "Cantor" lectures, published in the *Journal* of the Society of Arts (December 6) there is a good description and illustration of a deresinating plant. The solvent used seems to have been cold gasoline. In 1901 United States patent No. 673,570 was issued to E. F. V. Wilmonskey for a process of refining gutta-percha which consisted in dissolving the entire gum in hot gasoline and cooling to 60° F., when, it is said, if four gallons of naphtha or more had been used for each pound of gum, loose precipitate formed which consisted of pure gum.

It was not until 1903, however, that any patents for the extraction of resins from caoutchouc had been granted in the United States, but in that year patent No. 741,260 was granted to William Appleton Lawrence, which patent was for a process of treating crude rubber with alcohol. In the specification the crude rubber referred to is guayule, which has been obtained from the wood by extraction with naphtha and contains some naphtha as an impurity. The extracting plant involved [see *THE INDIA RUBBER WORLD*, October 1, 1905—page 3] consists of a "churn," which is provided with a corrugated bottom, and corrugated rollers passing over it, which serve to masticate the gum in presence of the solvent. The saturated solvent is removed to a still, and the solvent evaporated and condensed in a condenser. The alcohol and naphtha are separated and run into various tanks for reuse.

The first claim of this patent covers "the process of refining crude rubber gum, which consists in subjecting the gum to the action of alcohol, which forms a solution of resin and naphtha and alcohol, then evaporating the alcohol and naphtha and alcohol from the resin, then condensing the vaporized alcohol and naphtha and separating the same." It is to be observed that this claim presupposes the presence of naphtha in the rubber, as otherwise the steps relating to its separating could not be carried out. This claim does not specifically state that the solution is to be separated from the gum before evaporation, and in a patent claim each step should be specifically mentioned. Claim No. 2 covers "a process of refining crude rubber gum consisting in agitating the gum in alcohol, then vaporizing the alcohol from the gum, and then refrigerating to separate the alcohol from by-products."

Here it is specifically stated that the alcohol is to be removed from the gum by evaporation or vaporization, and while this process would perhaps remove the naphtha, it would not remove the resins. It may be mentioned here that alcohol is a poor solvent of the resins when compared with acetone, and while this process has been largely worked in the past, and while purified

guayule is now on the market produced by this process, the solvent used is acetone instead of alcohol. This patent may be taken as representative of the processes which follow the analytical method which consists in dissolving up the entire gum in a rubber solvent and then precipitating the gum by the addition of a solvent in which the gum is insoluble.

As representative of that class of processes which are similar to the analytical methods, which extract the resin by a solvent which does not affect the gum, but leaves it in its original condition, there may be cited United States patent No. 821,934, issued in 1906 to Archie P. Eves, for "Process of Treating Gum." This process involves the use of an apparatus consisting of three distinct parts, with different functions. First is a base, which is a vessel with a steam coil for heating and evaporating the volatile solvent and removing the resin. The vapors pass up to a car, which is rolled outside and filled with rubber and rolled back into the extracting vessel. This car contains stirring arms, which are worked by attaching a shaft and pulley. The hot vapor goes to the top after heating the car and rubber, and is condensed by the cooling coils and drips down into the car, dissolving the resin. Claim 5 of this patent reads:

"A method of purifying rubber which consists in passing alcoholic vapors through and around the material to be treated to a condenser, and at the same time causing the condensed solvent to descend through the rising vapors upon the gum, whereby the heat of the vapor is utilized and the gum and solvent made to undergo treatment at as high a temperature as is practicable." It is stated in the specification that acetone is the preferred solvent.

Dr. Weber says ["Chemistry of India-Rubber," page 240]: "I very much prefer a form of extractor in which an inner tube which receives the thimble (containing the gum) fits into an inner jacket so that there remains a free annular space between them, through which the vapor of the extracting liquid may pass up into the reflux condenser, thus keeping the material to be extracted always at the temperature of the boiling liquid." On page 239 he speaks of the alcoholic solvents but states that "acetone is, however, the solvent which is free from any objections." As this publication was made in 1902 it would seem to be an anticipation of the claim of the Eves patent already quoted.

This patent is, however, the basis of several attempts to purify rubber by the processes which extract the resin by a solvent which in no way affects the gum, and at least one large plant was erected under it and is now in successful operation, having treated several hundred tons of crude rubbers and used it successfully, and presumably at a profit.

But it is a fact that most of the solvents for rubber resins which will not dissolve the gums also are liquids which are soluble in water and cannot be separated therefrom without elaborate separating machinery, and all the crude gums, no matter how well dried, still contain some water, and after repeated use these solvents become so charged with water that they will not further dissolve the resins, so that if used in the apparatus suggested by the Eves patent it is necessary to dry the rubber most carefully, and then to have another apparatus which will separate the water from the solvent and at the same time work with a minimum loss. Such an apparatus, installed by the writer, will in the case of acetone

recover more than 99 per cent. on each operation and will concentrate to 99 per cent. purity.

Those who are familiar with the working of rubber gums know that no solvent can properly act on them without some means whereby the gum is constantly stirred, torn, or re-worked through rolls, or some means of constantly supplying fresh surfaces of the gum to the solvent is provided. Patents No. 821,716 and No. 821,717 were granted to F. C. Hood, of Boston, in 1906, the first for a machine for washing rubber and the second for a process of purifying rubber. These patents were noted in *THE INDIA RUBBER WORLD* at the time of issue, though their object was not fully disclosed.

The working of the two patents is similar. There is a set of ordinary rubber washing rolls mounted in a watertight covered casing and the "washing rolls are immersed in liquid, so that the level of the liquid in the tank rises to a height above the nip of the rolls so that the rubber as it passes the nip of the rolls is flooded with the washing liquid . . . and the sheet itself rises automatically toward the surface of the liquid, where it passes over and is caught by and carried through the rolls." The sheet is directed toward the rolls by a spider wheel. The specification further says: "I use the term 'liquid' because, while water alone is generally used, it may be desirable to add chemicals to the water, or to substitute for the water other liquids having a specific solvent or chemical effect." A steam pipe allows the heating or boiling of the liquid in the machine.

One of the claims of the Hood process patent reads: "The herein described process of purifying rubber, which consists in passing it between co-acting rolls while submerged in the purifying liquid, and automatically returning the sheet issuing from the rolls to the nip of the rolls for a fresh pass, substantially as described."

It is plain that the Hood apparatus is well adapted to the treatment of rubber gums for deresination by solvents which do not attack the rubber, and that, with the enclosed tank containing the rolls and having automatic means of feeding, such solvents as alcohol and acetone can be thoroughly contacted with the rubber while heated and without loss of the solvents. It is understood that this apparatus is now in successful operation.

It is to be observed that at the present time acetone is used almost universally as the solvent in deresinating rubber. While the resins may be completely removed by this process, yet as acetone will, while hot, dissolve, for example, only 18 per cent. of Pontianak resin, a large amount of the solvent must be used and it must be kept hot, or the resin will crystallize out. Acetone is also rather expensive, and even a slight loss of such valuable material becomes worth considering. Moreover, the crude and unsystematic methods of applying the solvent to the rubber required that much more than the theoretical amount be used to obtain an extraction anywhere near complete.

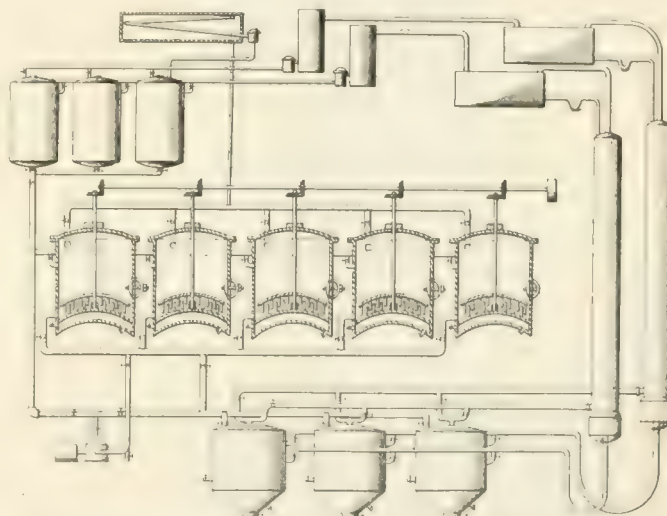
The writer's attention, therefore, was directed to finding, if possible, cheaper and more efficient solvents and a more methodical method of application, combined with the most complete recovery of the solvents for reuse. It was found that the esters of methyl and ethyl alcohol were better solvents than acetone for the resins, while not attacking the gums. These esters can also be produced cheaper than acetone. Experiments showed that while only 18 per cent. of resin was dissolved by acetone, methyl acetate would dissolve 25 per cent., and ethyl acetate would dissolve 50 per cent. resins.

The discovery that these esters were excellent resin solvents was considered valuable, and it was sought to protect the discovery through patents No. 845,616 and No. 890,217, while the methodical treatment which secured a good extraction, and the methods of complete solvent recovery which

made the economical operation of the process possible, were protected by patent No. 890,216.

This invention relates (1) to a method of extracting impurities from crude rubber by certain compound solvents exercising selective action upon certain constituents, and used in regulated amounts and in a regulated way, and (2) to an apparatus comprising structures adapted to selectively extract various impurities from rubber. The apparatus comprises a series of extractors provided with heating means and internally with masticating devices. The solvent is admitted to the extractors successively with a view to treating the rubber in each four or more times, the nature of the solvent undergoing a change in its constituent parts as it passes through the apparatus during the various steps of treatment. Four steps are usually desirable, two for drying the rubber and two for removing the remaining impurities. With a battery of five extractors, four may be in use at one time while the fifth is being charged or discharged. The apparatus embraces means of introducing the solvent and for its recovery later, and also for the withdrawal of the matters removed from the rubber.

This process allows of the treatment direct of crude rub-



HOOD'S DERESINATION SYSTEM (PATENT NO. 890,216)

IN THE CUTTING IS SHOWN A BATTERY OF FIVE EXTRACTORS, WITH RECOVERING APPARATUS, AND CONNECTED TO THREE KETTLES AT THE BOTTOM INTO WHICH THE RESIN LADEN SOLVENT IS RUN. THE KETTLES ARE CONNECTED TO REFINING COLUMNS ON THE RIGHT, IN WHICH THE SOLVENT VAPOR ARISING FROM THE STEAM HEATED KETTLES IS PURIFIED AND CONDENSED, PASSING TO STORAGE TANKS SHOWN AT THE TOP ON THE LEFT. THE CIRCULATING PUMP IS SHOWN AT THE BOTTOM (ON THE LEFT).

bers without drying, and it has been found cheaper to remove the water by the use of solvents than by drying in any of the ordinary ways. It is believed that this process represents the best practice at the present day.

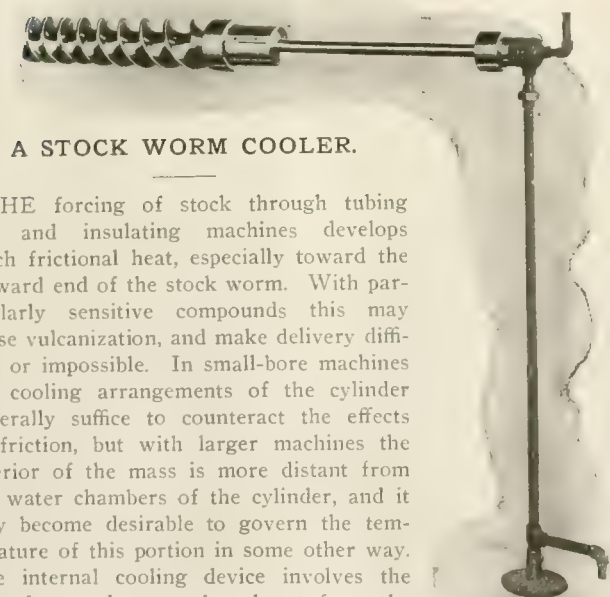
As to cost of operation and products: Assuming that Pontianak can be bought for 5 cents per pound, and that it will yield one pound of purified gum from 10 pounds of the crude raw, then the materials' cost for rubber will be 50 cents per pound for the finished product. If one gallon of solvent per pound of crude gum is used, and the solvent is worth 75 cents per pound, and the loss is 1 per cent., then the cost for loss of chemicals calculated on the finished product would be 7.5 cents per pound. The cost for labor and other factory costs cannot be figured closely unless the particular factory conditions are known, but with a moderate sized plant the factory costs should not exceed 5 cents per pound of finished product. This would give a total cost per pound of purified gum of 62.5 cents per pound. This is a wide difference from the price at which the higher grades of rubbers are selling, and it must be remembered that this finished product must be compared with the washed and dried product, as there is no further shrinkage before use.

In estimating the cost of treatment for guayule it will be assumed that guayule yielding 60 per cent. of purified gum may be purchased for 30 cents per pound. The materials' cost would be found from the fact that 10 pounds of crude would yield 6 pounds of purified at a cost of \$3, or 60 cents per pound for purified rubber. As there is so much less resin to be dissolved, the cost for solvents may be placed at 3 cents per pound, and the working costs would be less, as there would be so much greater finished product per pound of raw material worked, so that this item may be safely placed at 3 cents per pound. This would give a cost of 62 cents per pound for finished product. This shows that at the prices assumed guayule would produce purified gum at less cost than Pontianak.

Of course prices are continually varying, and these crude products are not of uniform grade, so that the foregoing assumptions, while they may not represent the market at the time of publication, or be representative of particular samples, yet they are useful as a basis of calculation. The resin from guayule is of a totally different character from that of Pontianak.

Here a slight digression will be made to correct some erroneous statements which are frequently made. These statements usually are to the effect that rosin is frequently added to rubber mixtures, so why remove resins and then add more rosin. These statements and deductions proceed from a careless use of words. The ordinary rosin is colophony, the product of the long leaf pine, and it is a resin, but all resins are not rosin or colophony, and many differ in almost every way from rosin. Therefore while rosin is a resin, a resin is not necessarily rosin, or anything approaching or having the qualities required of colophony rosin. If the resins found in the brand of rubber used have the qualities desired in the product to be made then the resins in the crude gum are desirable, but if not their removal is necessary.

Pontianak resin is hard and vitreous, not being completely melted at the boiling point of water, while guayule resin is liquid or tarry at ordinary temperatures. In a future article some information will be given as to the utilization of these resins.



A STOCK WORM COOLER.

THE forcing of stock through tubing and insulating machines develops much frictional heat, especially toward the forward end of the stock worm. With particularly sensitive compounds this may cause vulcanization, and make delivery difficult or impossible. In small-bore machines the cooling arrangements of the cylinder generally suffice to counteract the effects of friction, but with larger machines the interior of the mass is more distant from the water chambers of the cylinder, and it may become desirable to govern the temperature of this portion in some other way. The internal cooling device involves the use of a stock worm bored out from the rear almost to the delivery end. It provides for injecting a stream of cold water to the point of the worm, and also for its return and discharge. The fixture is readily connected to the water supply. Within the horizontal tube shown

is a tube which extends to the point of the stock worm, and there delivers a stream of water. The water flows backward through the annular space between this tube and the stock worm, into the outer horizontal tube, and thence discharges down the upright pipe. To prevent leakage at the ankle a stuffing box is provided. The amount of the circulation should be controlled by a valve at or near the point of connection with the water supply. The cooling device is applicable to Perfected and Improved tubing and side-delivery insulating machines. Manufactured by John Royle & Sons, Paterson, New Jersey.

RUBBER NOTES FROM EUROPE.

BOTH MANUFACTURER AND PLANTER.

FOLLOWING the recent visit to the rubber planting districts by Mr. Patrick Millar Matthew, managing director of the Victoria Rubber Co., Limited, of Leith, Scotland [see *THE INDIA RUBBER WORLD*, March 1, 1909—page 202] a new plantation company has been organized, such action evidently having been influenced by Mr. Matthew's favorable reports upon certain estates in Johore, which are now to be acquired. The new company, Tebrau Rubber Estates (1909), Limited, was registered March 18, at Edinburgh, with £150,000 capital. There are 1,530 acres planted to rubber, with about 240,000 trees, and tapping is expected to begin two years hence. Mr. Matthew is chairman of the new company.

BRITISH TRADE NOTES.

THE directors of British Insulated and Helsby Cables, announce a final dividend, making, with the 4 per cent. already paid, 10 per cent. for the last business year.

An *interim* dividend of 20 per cent., for six months to February 28, was payable on March 8 to shareholders in Stepney Spare Motor Wheel, Limited.

At the thirtieth annual meeting of W. T. Henley's Telegraph Works Co., Limited (London, March 1), it was voted that the managing director, Mr. George Sutton, M. I. E. E., be presented with a portrait of himself and a service of plate, to commemorate the twenty-eighth anniversary of his association with the business, for which purpose the sum of £1,000 was made available.

The death is announced of Mr. James R. Bertram, a principal in the Edinburgh firm of James Bertram & Son, Limited, manufacturers of machinery for the rubber industry on a large scale. The death occurred on February 20.

THE directors of the Dunlop Rubber Co., Limited, announce an *interim* dividend of 10 shillings per £1 share for the first half of the business year which began September 1. For two years past the Dunlop dividends have been at the rate of 100 per cent.

The Liverpool Rubber Co., Limited, reported an improvement in trading operations for 1908; the dividends were 5 per cent. on the non-cumulative preference shares and 2 per cent. on the ordinary.

The Rubber Tanned Leather Co., Limited, registered March 16, 1909, with £250,000 capital. To adopt an agreement with the Rubber Tanning Syndicate, Limited, and to carry on the business of tanners by any process, including tanning with rubber. Registered office: 235, Finsbury Pavement House, E. C., London.

Craigpark Electric Cable Co., Limited (Glasgow, Scotland), report net profit for the year ending March 1, 1909, of £6,344 [= \$30,873.08]. There was a considerable increase in the volume of business in the cable department, and the golf ball trade has been very satisfactory. Dividends: 6 per cent. each on preference and ordinary shares. The company was formed in 1903, to succeed an earlier company dating back to 1897. The late Lord Kelvin was consulting engineer.

It is stated that a *Hevea* rubber plantation of 200,000 trees has been established by Chinese in lower Borneo.

New Rubber Goods in the Market.

SHAMROCK-GLONA RUBBER BELT.

SINCE the advent of motor cycling the question of transmission has been much discussed, and it is clear that the rubber and canvas belt has been the conqueror in this contest. The "Shamrock-Glona" has a grooved bottom part, by means of which the greatest possible flexibility is obtained. It is made in separate lengths, thus allowing the utmost care to be given to the details of manufacture. After preparing the canvas

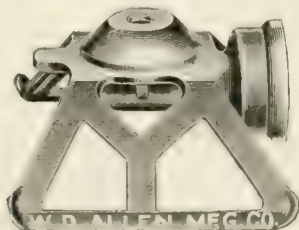


SHAMROCK-GLONA RUBBER BELT

core, which constitutes the strength of the belt, it is so covered with a superior quality of rubber as to insure an equal distribution of the same at the sides of the belt. This belt is made all through of an angle of 28 degrees in sizes of from $\frac{5}{8}$ inch to $1\frac{1}{8}$ inches. The latter size is designed specially for side car work for high-powered machines. [The Hanover Rubber Co., Limited, Hanover, Germany; George Borgfeldt & Co., agents, New York.]

LITTLE WONDER LAWN SPRINKLER.

A new lawn sprinkler termed the "Little Wonder" is illustrated in a cut herewith. This sprinkler is made in gray iron, enameled red, and the spray is produced by a new and improved method on which a patent has been applied for. It gives a finely divided misty spray, distributing the water evenly over a circle the circumference of which, of course, varies in size with the amount of pressure used, but the "Little Wonder" works well



LITTLE WONDER LAWN SPRINKLER.

with either light or heavy pressure. The distinctive thing about this sprinkler is its price. It is being put on the market at a rate which will allow it to be retailed at 25 cents. This invention is being put on the market on June 1, and shipments of the sprinkler can be made after that date. [W. D. Allen Manufacturing Co., Chicago.]

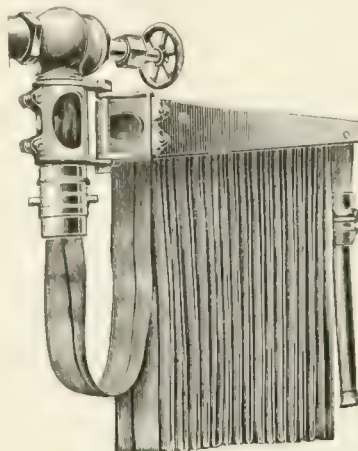
A NEW RUBBER HORSESHOE.

A HORSESHOE has been brought out, provided with a rubber tread of rubber stock, such as is used in solid tires for vehicles.

Such rubber treads are held in place by two parallel wires, which pass through the rubber longitudinally, the same as in tires. These wires engage a series of clamps, which hold them firmly. The new horseshoe has been patented by Herman J. Filliez, a blacksmith, of Canton, Ohio, assignor of one-half to Dr. Edmund D. Brant, a practicing physician of the same town.

"ROYAL" PRESSED METAL HOSE RACK.

IN line with the present tendency towards the use of pressed metal in building construction, a new article in the line of hose racks is being introduced—the "Royal," made of pressed steel



RACK ATTACHED TO VALVE.

or brass. The sides and top are made of one piece of metal, pressed into shape; the top folds of the hose are protected from the accumulation of dust, the hose being always under cover.



SECTIONAL VIEW, SHOWING CONSTRUCTION OF RACK.

Special attention is called to the feature of the attached pins. As each successive fold is withdrawn, one end of the supporting pin drops, releasing one fold of the hose, the pin remaining attached to opposite side of the rack, ready for immediate use when the hose is returned to the rack. These supporting pins are of pressed metal, and are of so large a radius that the hose will not pinch at the folds. They are non-corrosive. The "Royal" racks may be attached to the wall, to the standpipe, or, by means of a nipple, direct to valve. [Wirt & Knox Manufacturing Co., Philadelphia.]

HAGSTROM PATENT BLOWOUT PATCH.

THIS device, instead of having the form of the usual patch, is really an inside tire sleeve, the position of which, when in use, is shown in the cut herewith. It is not unsightly as are some



HAGSTROM BLOWOUT PATCH.

of the outside patches, straps, and the like. It is not only convenient and inexpensive, but can be used repeatedly. [Hagstrom Brothers Manufacturing Co., Inc., Lindsborg, Kansas.]

PRESIDENT WALTER S. BALLOU.

THE directors of the Woonsocket Rubber Co. (Woonsocket, Rhode Island), at the annual meeting on April 26, elected Walter S. Ballou to the office of president, to succeed Colonel Samuel P. Colt, who declined reelection. It is now 41 years since Mr. Ballou, born in the neighboring town of Cumberland, walked into the office of the Woonsocket company and asked for and obtained employment. That business had been founded by the late Joseph Banigan, who was at that time president of the company and its forceful, active head. The new employé made continual progress, until in time he began to be recognized as Mr. Banigan's "right hand man." He became the company's selling agent, which position he filled with great efficiency for 20 years, until 1896, after the accession of the Woonsocket company by the United States Rubber Co. When Mr. Banigan formed the Joseph Banigan Rubber Co., in the same year, Mr. Ballou was one of the incorporators



WALTER S. BALLOU.

and was elected secretary and treasurer of the new company, which established a rubber footwear factory at Olneyville, near Providence. Following the death of Mr. Banigan the company last named came under the control of the United States Rubber Co., with Mr. Ballou remaining in charge, filling the position of president of the Banigan corporation. Since 1903 he has been a director of the United States Rubber Co. A little later he became a member of their executive committee, in which position he has been an efficient factor in the management, spending a part of every week in New York. Last year the work of the Banigan and Woonsocket factories was combined, which called for Mr. Ballou's attention to affairs at Woonsocket, so that his election to the presidency of the Woonsocket corporation is but another step in his steady advancement since he first went to work as a boy in the employ of Mr. Banigan. Mr. Ballou as a salesman not only was wonderfully successful, but he made a host of friends in the trade. Later he proved no less successful in an executive capacity, in promoting the business with which he was connected, and through his foresight

and business capacity he has accumulated a very comfortable fortune for himself. Mr. Ballou is widely known as an enthusiastic sportsman, being a skillful wielder of both rod and gun.

At the annual meeting of the Woonsocket company, in addition to being elected president, Mr. Ballou was continued in the position of general manager, which he had held for a year. Charles H. Guild was reelected secretary and treasurer and George Schlosser superintendent.

On the same date the officers of the Joseph Banigan Rubber Co. were reelected: Walter S. Ballou, president and general manager and secretary, and John J. Watson, Jr., treasurer.

Mr. Ballou also is president of the American Wringer Co., with which he has been connected since the date of its formation by Mr. Banigan.

SHOOTING ON A RUBBER ESTATE.

THE newspapers of Mexico and the United States have contained so much of late regarding an unfortunate incident on an American-owned rubber plantation in the state of Vera Cruz, Mexico, as a result of which Harold Sanborn, of Chicago, has since lain in a hospital under police surveillance, that *The Mexican Herald*, of Mexico City, has been led to make a thorough investigation of the facts, a report on which, headed "*The Herald Probes Sanborn Shooting Affair*," occupies ten columns in the issue of that journal for May 19. *The Herald's* report would seem to exonerate young Sanborn, whose father and mother were with him on the rubber plantation at the time of the occurrence. Six persons were shot fatally on the evening of Sunday, April 25, of whom four were rubber tappers employed on the estate, another a young sister of one of the tappers, and the sixth an unknown *mozo*. Harold Sanborn was wounded. *The Herald's* report indicates that the shooting was the outgrowth of a sudden quarrel among a crowd of plantation laborers, that the woman was in a nearby house, having nothing to do with the affair, and that Sanborn was only attempting to control the situation, in the absence of the police. *The Herald's* report raises the question as to whether either of two shots fired by Sanborn took effect, and suggests that the first published stories had a political origin and were circulated by enemies of the local *jefe politico*.

RUBBER GOODS AT TWO EXHIBITIONS.

THE exhibits at the second annual Clothing and Outfitting Exhibition, held at the Royal Agricultural Hall, London, April 19-20 included displays of waterproof goods by important British firms. North British Rubber Co., Limited (Edinburgh) showed waterproof clothing for regular wear and for motoring, household and druggists' sundries, sporting requisites, ground sheets, billiard table covers, and so on. J. Mandelberg & Co., Limited (Manchester), William Currie & Co. (Edinburgh), also were among the prominent exhibitors of waterproofs.

At the Building Trades Exhibition of 1909—devoted to the House Beautiful—held at the Olympia, London, April 17-May 1, a handsome display of india-rubber tiling and stair nosing and miscellaneous rubber goods was made by the India-Rubber, Gutta-Percha and Telegraph Works Co., Limited (Silvertown).

The management of the two interesting exhibitions mentioned here was in the hands of Mr. A. Staines Manders, who was the organizing manager of the International Rubber and Allied Trades Exhibition last year at Olympia.

THE flexible metal hose, in steel and copper, made by the American Metal Hose Co. (New York), is now made for nearly every purpose for which hose is used. When it comes to gas tubing, however, the metal product requires to be rubber packed.

News of the American Rubber Trade.

NEW RUBBER FACTORY IN WISCONSIN.

THE company operating at Mineral Point, Wis., for some time as Kelly Manufacturing Co., were reorganized in April as Badger Rubber Works, Inc.—a Wisconsin corporation with \$100,000 capital—and they are doing a business in the manufacture of general mold work, friction fabrics, hose, tubing, fruit jar rings and the like. George N. Graham is president; Phil Allen, Jr., vice-president and treasurer, and John W. Moody, secretary. The company have a Chicago office at No. 1341 Michigan avenue.

TENNESSEE'S FIRST RUBBER FACTORY.

AMERICAN RUBBER WORKS is the name of a new corporation under the laws of Tennessee, organized May 10, 1909, with \$25,000 capital, to manufacture automobile tires, patented puncture proof tire shields and druggists' sundries. A rubber plant is being installed and is in partial operation at Commerce street and Third avenue, Nashville, Tennessee. W. Witherspoon is president of the company, V. H. Cole vice-president, George R. White secretary, and Joseph R. Plasket treasurer. W. F. Anderson is general manager.

A NEW TIRE FACTORY.

THE Dreadnought Tire Co., mentioned in THE INDIA RUBBER WORLD, May 1, 1909 (page 299), as having been incorporated under the laws of New Jersey, have begun the manufacture of pneumatic tires at No. 251 Ocean avenue, Jersey City—premises occupied hitherto by James J. Coomber in the repair of automobile tires, and whose business is taken on by the new corporation. The manufacture of repair gum, conducted by Mr. Coomber, will also be continued. Stewart Browne, No. 170 Broadway, New York, is president of the new company. Mr. Coomber in October, 1907, had incorporated, under the laws of New York, the Coomber Tire and Rubber Co., to manufacture packings and tires in Jersey City, which succeeded the incorporation of the Coomber Rubber Co., under the New Jersey laws, in April, 1907.

NOW THE "EMPIRE TIRE CO."

THE Empire Automobile Tire Co. (Trenton, New Jersey) have shortened their corporate title by dropping the word "automobile," since they are not now confining their production to automobile tires. The Empire company, established a little more than two years ago, at once took an important position in the trade, and its business has shown steady growth.

MINNESOTA RUBBER CO. (MINNEAPOLIS).

THE firm known hitherto as Plant Brothers, wholesalers of rubber goods in Minneapolis, Minnesota, at No. 21 South Second street, announced on April 24: "To avoid confusing our business with that of another house in Minneapolis operating under a name similar to that of Plant Brothers, from this date the style of our firm will be *Minnesota Rubber Co.*" They are northwestern agents for The Cleveland Rubber Works of the Mechanical Rubber Co., and exclusive northwestern agents for The G & J Tire Co., besides handling waterproof clothing.

RETIREMENT OF DANIEL KLOCK.

DANIEL KLOCK, Jr., of Troy, New York, has disposed of his rubber goods business to the Alling Rubber Co., a corporation conducting a chain of jobbing and retail stores in New England, with houses also at Paterson, New Jersey, and Schenectady, N. Y. Wilfred C. Minor, treasurer of the Alling company, will take charge of the Troy store. Mr. Klock established his retail business in Troy December 1, 1865, and since 1878 has occupied the same premises—No. 10 Broadway—now acquired by the Allings. For 40 years Mr. Klock also conducted a wholesale rubber goods store in Troy, at another address. During some

years the business was conducted under the style D. Klock, Jr., & Co., until May 1, 1906, when William H. Mann retired from the firm, after which Mr. Klock confined himself to the retail trade. Mr. Klock, who now retires from business, has long been a leading business man in Troy, and one of the prominent citizens.

THE ENGLISH OKONITE CO.

THE Okonite Co., Limited, of London, having decided upon voluntary liquidation, a meeting of creditors, as required by law, was called for May 3, Mr. W. T. Ogden, one of the directors, being the liquidator. This is a formal step toward the removal of the domicile of the company to the United States. THE INDIA RUBBER WORLD already (January 1, 1909—page 151) has reported the incorporation of the Okonite Co., under the laws of New Jersey, for the purpose of carrying out the new plans of the Okonite interests.

RUBBER BOOTS FOR ROYALTY.

THE Hood Rubber Co. (Boston) are mentioned as having received, through the Italian ministry of war, an order for several pairs of their rubber boots for King Emmanuel III. presumably due to the Duke d'Abruzzi having secured some of the products of this company from their exhibit at the Jamestown Exposition last year, which later were used on his yacht.

ANNUAL MEETINGS.

THE annual meeting of the Consolidated Rubber Tire Co. (New York) was held on May 3, when the board of directors was reelected without change, after which the officers were also reelected.

The annual meeting of The Manufactured Rubber Co. (Philadelphia) was held on May 12, when the following were elected directors: Clayton E. Platt, John S. Arndt, George G. Peterson, Edward J. Dumee and Isaac R. Pennypacker. After paying the usual dividend of 6 per cent. of the preferred stock of the company, a balance was carried over to the undivided profits account.

At the annual meeting of Joseph Dixon Crucible Co. (Jersey City, New Jersey), on April 19, the old board, consisting of George T. Smith, William Murray, William H. Corbin, Edward L. Young, George E. Long, William G. Bunsted and Harry Dailey, was reelected. The board then reelected the officers: George T. Smith, president; William H. Corbin, vice-president; George E. Long, treasurer; Harry Dailey, secretary. William H. Corbin was reelected counsel.

TRADE NEWS NOTES.

THE Vim Cycle and Hardware Co. (Buffalo, New York) have purchased the bicycle department of the Iroquois Rubber Co., of the same city.

In connection with the anniversary of the Hope Rubber Co. (Providence, Rhode Island)—a store now 33 years old—mentioned in THE INDIA RUBBER WORLD last month, the employees had a banquet on the evening of May 1. Including their guests, more than 50 were present. Mr. Isaac Crocker, president and treasurer of the company, was one of the speakers.

At a recent meeting of the city council of Peoria, Illinois, the bill for fire hose of the Manhattan Rubber Manufacturing Co. (Passaic, New Jersey) was ordered paid, and the clerk was instructed to express the council's appreciation of the inspection of the hose by the Underwriters' Laboratory.

Metal Lock Tile Co. has been adopted as the name of the corporation formed under the laws of Maine, October 2, 1906, as the National Metal Back Rubber Tiling Co., and mentioned later as having begun manufacturing, first at Trenton, and later at Wilmington. The offices, all the while in Philadelphia, have been removed to No. 400 Chestnut street, in that city.

NEW INCORPORATIONS.

MECHANICAL Rubber Goods Co., April 23, 1909, under the laws of Maine; capital, \$100,000. To deal in rubber goods. Incorporators: Ardon W. Coombs (president) and Charles H. Tolman (treasurer and clerk), of Portland, Me.

The Health Co., April 22, 1909, under the laws of Rhode Island; capital, \$100,000. To manufacture rubber sundries. Incorporators: Walter J. Smith and James Wallace, Providence, R. I.; Charles W. Smith, David N. Smith, Charles H. Dunster and Henry M. Smith, of New York city.

C. C. C. Fire Hose Co., April 22, 1909, under the laws of Maine; capital, \$150,000. To manufacture rubber and leather goods. Incorporators: C. E. Eaton (president), T. L. Croteau (treasurer), and A. F. Jones, of Portland, Me.

Eastern Pneumatic Tire Co., May 10, 1909, under the laws of Massachusetts; capital \$25,000. Incorporators: Harry N. Atwood and Albert R. Ellis, Swampscott; Edgar B. Cooper, Roxbury; Robert F. White, Brookline; and John McLay, Lynn, Massachusetts.

American Asphaltum and Rubber Co., May 6, 1909; under the laws of Maine; capital, \$500,000. Incorporators: H. M. Heath, C. L. Andrews, J. Berry, C. B. Skillin, E. J. Pike, S. W. Pike and R. S. Buzzell, all of Augusta, Maine.

South Akron Rubber Workers' Relief Association, April 29, 1909; under the laws of Ohio; no capital stated. Incorporators: S. Hill, W. McChester, Norman O. S. Nice, Lee E. Clough, W. F. Ridge, C. L. Eckel and Bert Jones.

TRADE CHANGE IN TEXAS.

THE rubber goods business at Houston, Texas, carried on formerly as W. B. Shelp & Co., has been incorporated under the laws of Texas as Shelp Rubber and Supply Co., Inc. W. B. Shelp is president, E. W. Bailey vice-president, and C. E. Girten secretary and treasurer. They handle rubber goods generally, and particularly tires and mill supplies.

THE WASTE RUBBER TRADE.

RUBBER and Metal Supply Co., wholesale dealers in rubber and metal, who have become established in business recently in the five-story building, No. 157 South street, New York, were formerly the Jersey Rubber and Metal Co., of Jersey City, New Jersey, established in November, 1904.

Trenton Scrap Rubber Supply Co. (Trenton, New Jersey) have removed their office and warehouse to larger premises—Nos. 17-35 Perrine avenue.

Yorkville Scrap Rubber and Metal Co. (New York) are a new company, incorporated under the laws of New York, who take over the business of H. Rothschild, waste rubber dealer, at No. 301 East Seventy-fifth street, which they will continue at the same address, with Mr. Rothschild as manager.

MAP OF PLANTATION "RUBIO."

THE Tehuantepec Rubber Culture Co. (New York) have issued a very interesting supplement to the annual inspection report on their Plantation Rubio, in Mexico [see THE INDIA RUBBER WORLD, May 1, 1909—page 299], in the shape of a well-executed map of the plantation, showing in different colors the areas planted in the different years—1902 to 1908 inclusive—together with the forest and water areas. The map also indicates the ownership of the adjacent properties. Plantation Rubio embraces a total of 5,357 acres, of which 2,142 acres [=3.3 square miles] have been planted in rubber to date. The map is 22.5 × 29.5 inches in size, is based upon actual surveys, and is the work of an expert engraver.

A HARD RUBBER SUBSTITUTE FOR INSULATION.

THE Electrical Insulating and Specialty Co., lately incorporated [see THE INDIA RUBBER WORLD, April 1, 1909—page 263], has been formed to manufacture a substitute for hard rubber which is the outcome of a discovery made by O. L. Jefferies and Dr. J. McCann, of Columbus, Ohio, after some years of experimenting. It is stated that this substitute is absolutely proof against water

and oil, and resistant to a high degree against heat. Tested for insulating purposes by Professor Caldwell, an electrical engineer, at the Ohio State University, very satisfactory results were obtained. It is stated that the substitute can be placed on the market at a very much lower cost than hard rubber. In addition to manufacturing the substitute for hard rubber, the company intend making insulating paints and other articles based upon the same invention. Three acres of land have been purchased at Noble, Ohio, a suburb of Cleveland, and it is intended to erect buildings as rapidly as possible. The officers are: Charles C. Clark, president; H. W. Culbertson, vice-president; C. Aulenbacher (No. 1600 Euclid avenue), secretary; S. S. Jefferies, treasurer, and O. L. Jefferies, general manager.

THE AMERICAN HARDWARE TRADE.

THE importance of the hardware trade in distributing the products of the mechanical rubber goods branch is emphasized by the appearance of a new edition of the directory of wholesale hardware dealers issued periodically by the *Hardware Dealers' Magazine* (New York). In addition to detailed information regarding every wholesale hardware house in the United States, this book mentions also the manufacturers of the goods which they handle, and gives space to considerable information regarding foreign trade in American hardware products.

TRADE NEWS NOTES.

SUIT has been entered in the courts of Torreon, Mexico, against the Continental-Mexican Rubber Co., by F. Ephraim, claiming damages for alleged infringement of his patents for the extraction of guayule rubber. The filing of similar suits by the same plaintiff against other guayule companies has been reported already in THE INDIA RUBBER WORLD.

The friends of Mr. Henry C. Burton, secretary and manager of Parker, Stearns & Co., will be glad to learn that he has recovered from a recent serious illness of several weeks sufficiently to be in charge again of his office, which, INDIA RUBBER WORLD readers know, has been removed to the company's new factory at Sheffield, Belmont, and Georgia avenues, Brooklyn, New York.

Loring M. Monk, who at various times has been connected with the rubber footwear trade, most recently as president of the Globe Mills Rubber Co. (Lawrence, Massachusetts), while it was in existence, is mentioned as representing the Alfred Dolge Felt Co., his office being at No. 183 Essex street, Boston.

Dr. David Spence, of whose work in Europe in connection with rubber has been referred to in THE INDIA RUBBER WORLD (March 1, 1909—page 201) is now located at the research laboratory of The Diamond Rubber Co., at Akron, Ohio.

William & Charles Beck, of the Spicket mills, Holly street, Lawrence, Massachusetts, are extensive makers of linen fire hose of all sizes, approved by the Associated Factory Mutual Fire Insurance companies.

The B. F. Goodrich Co. (Akron, Ohio) have issued a pamphlet containing a complete list of their tire records in the 1909 shows. It is entitled "Separating the Sheep from the Goats."

An interesting game of baseball took place in Jersey City on May 15 between employes of the United States Rubber Co. in the auditing and selling departments at the general offices in New York. The salesmen won by a score of 24 to 23.

Parker, Stearns & Co. (Brooklyn, New York) illustrate the "up-to-dateness" which has always characterized them by including on their letter heads, in addition to a cable address, their wireless address, "Alphapark."

During the month the board of directors of The Merchants' Association of New York held a King Memorial Meeting, in honor of the late William F. King, the founder and chief organizer of the association, and its president during its first four years—1897-1901. Among the speakers was the Hon. George B. Cortelyou, lately of the United States government. The association has presented to Mrs. King a portrait in oil of her late husband.

RUBBER RECLAIMING AT MISHAWAKA.

A NEW rubber reclaiming plant on an important scale has been established at Mishawaka, Indiana, and is now in operation. It has been constructed by and is the property of the Rubber Regenerating Co., who have been operating for some years past in Chicago, under the presidency of Raymond Beach Price, who is the inventor and patentee of various processes and appliances for reclaiming rubber. The new plant at Mishawaka consists of a main building of concrete, brick, and iron, 340 X 100 feet, and 40 feet high. Parallel with it is a warehouse connected with the factory by tunnel, the two buildings being separated by double switch track. The management advises THE INDIA RUBBER WORLD: "This plant operates under several different processes and we believe it to be the most efficient reclaiming plant ever erected. Our Chicago plant is still operating at full capacity, 24 hours a day, and it is uncertain how long we will continue to operate it." At Mishawaka the company are using water power at a small percentage, it is stated, of the cost of steam in Chicago.

CONVERSE RUBBER SHOE CO.

At the starting of work at the factory of the Converse Rubber Shoe Co., the new company located at Malden, Massachusetts [see THE INDIA RUBBER WORLD, May 1, 1909—page 298]. There



FACTORY OF THE CONVERSE RUBBER SHOE CO.

was some ceremony, including the raising of a flag presented by Councilman Owen P. Doonan, of Malden, while the employes sang "The Star Spangled Banner" and "America." Afterward three cheers were given for the United States flag and for the new company. It is stated that the first order made out complete on Converse Rubber Shoe Co. order blanks was credited to I. P. Wells, their western Massachusetts salesman. The new company will be represented at their Boston office—No. 50 High street—by Edward B. Pearson, originally with Converse & Pike (Mr. Marquis M. Converse, the president of the new company, was the head of this company), and later manager and treasurer of the Tremont Rubber Co., of Boston.

"GALVANIZED RUBBER ROOFING."

WHAT is called "Galvanized Rubber Roofing" is made of long fiber wool felt, saturated with a mineral rubber composition, after which the material is put through a bath of the same composition, which thoroughly coats both sides. The sheets are then run between heavy iron rolls, which puts on a surface finish referred to as being of a particularly durable character. This roofing is described as being hard elastic, non-absorbent, and heat proof, and to be used very largely. It is made by the Ford Manufacturing Co. (Chicago).

NEW COMPANY AT CUYAHOGA FALLS.

THE Falls Rubber Co. is a new corporation under the laws of Ohio, capitalized at \$75,000, organized for the purpose of operating the plant at Cuyahoga Falls, Ohio, some time operated by

the Superior Rubber Manufacturing Co., but for several years past idle. The new company purpose making bicycle and automobile tires, and mechanical and molded goods. Some remodeling of the building will be necessary; and additional machinery is being put in place. The officers are: J. H. Weld, president; Dr. S. H. Sturgeon, vice-president; H. F. Siegrist, secretary and treasurer. William E. Sherbondy, who will be superintendent of the works, is a practical rubber man, with experience for some years with important companies in this industry. The offices of the company will be in Akron, Ohio—59 Central Office building.

RECLAIMED RUBBER AND THE TARIFF.

SINCE the discussion of the tariff has been taken up at Washington there have been developments of special interest to the rubber reclaiming industry, and incidentally to all users of reclaimed rubber in the United States. Recently, as reported in THE INDIA RUBBER WORLD, an importation of reclaimed rubber was admitted free through the New York custom house, as a raw material. This is stated to have been learned with great interest in Russia, in which country the price of old shoes at once advanced, presumably with the idea that the Russian reclaimers had at their command an important new market in America for their products. The Russian companies would have in their

power (1) the possibility of buying old shoes more cheaply than the same stock can be bought elsewhere. [There is an export duty on Russian waste rubber sold abroad]; (2) cheap labor; and (3) free entry for reclaimed rubber into the United States. As shown on page 309 of this issue, the Washington authorities have since decided that reclaimed rubber is a manufactured product, and therefore liable to duty, since which time, it is reported, the price of old shoes in Russia has declined. Reclaimed rubber has not been specified in the tariff schedules hitherto, however, and in order to clarify the situation the Hon. Elihu Root, one of the United States senators for New York, has offered an amendment to the pending tariff bill, the object of which is to include reclaimed rubber among manufactures of india-rubber, which are dutiable.

In support of the new measure it is pointed out that a duty on imported reclaimed rubber would tend to keep open to American reclaimers the Russian supply of waste rubber. The existence of such a source in the past often has prevented a "corner" in the American supply, by way of making other material available. The broader the market, of course, the less the opportunity for speculation and the less liable fluctuations in prices of old shoes, and, similarly, in prices of the reclaimed products. Undoubtedly the whole rubber industry is interested in having stable prices for reclaimed rubber, and this, it is urged, is encouraged through discouraging the importation of reclaimed stock, while admitting raw materials free. Free reclaimed rubber, however, would encourage its importation from abroad and restrict the supplies available of foreign waste rubber.

LOCKPORT RUBBER CO. BURNED OUT.

ON the morning of April 28 a fire at Lockport, New York, destroyed the main portion of the old Holly Manufacturing Co. plant, occupied in part by the factory of the Lockport Rubber Co., a new company, the organization of which was noted in *THE INDIA RUBBER WORLD*, June 1, 1908 (page 307). The Lockport Rubber Co. are reported to have had \$30,000 insurance on machinery and \$10,000 on stock. The Lockport board of trade have appointed a committee to consult with the rubber company with regard to rebuilding in that town, and it is stated that a desirable location has been offered the company free just outside the town limits.

DEATH OF EDMUND F. HEATH.

EDMUND FIELD HEATH, of Newark, New Jersey, who died in New York city on April 28, at the end of a wedding journey, in his twenty-fourth year, was a son of the late Edmund F. Heath, the founder of Edmund F. Heath & Son, manufacturers of rubber carriage cloth at Newark, who died in 1904 at an advanced age. The subject of this notice was not connected with the firm named.

NEW ENGLAND RUBBER CLUB'S COMMITTEE.

FOLLOWING the annual meeting of the New England Rubber Club (reported in *THE INDIA RUBBER WORLD* last month) the Executive Committee—consisting of the officers of the Club—convened and appointed committees for the ensuing year as follows:

Nominating Committee.—Hon. L. Dewart Apsley, chairman; Homer E. Sawyer, Charles J. Bailey, William H. Gleason, Elston E. Wadbrook.

Special Membership Committee.—Henry C. Pearson, president of the Club, *ex officio* chairman; Arthur W. Stedman, William E. Barker, George H. Mayo.

Dinner Committee.—Francis H. Appleton, chairman; Charles A. Coe, Eugene H. Clapp, William E. Barker, Joseph W. Work. *Sports Committee.*—Frank D. Balderston, chairman; R. E. Paine, William G. Page, William J. Kelly, R. L. Chipman.

Entertainment Committee.—George H. Mayo, chairman; Charles J. Bailey, James H. Learned, George E. B. Putnam, William H. Palmer.

Resolutions Committee.—George P. Whitmore, chairman; Elston E. Wadbrook, Alexander M. Paul.

Auditing Committee.—William H. Gleason, chairman; J. Everett Stone.

At a recent meeting of the executive committee of the New England Rubber Club 20 new members were elected. Among them were S. H. C. Miner, C. C. Goodrich, H. E. Raymond, Humphrey O'Sullivan and W. T. Cole.

CANADIAN ITEMS.

THE will of the late Harry D. Warren, president of The Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, has been admitted to probate. The estate amounts to \$1,138,106—principally in shares of the Gutta Percha company—and is bequeathed to the widow, who is appointed sole executrix for herself and her children.

During a recent storm part of the roof of the main factory building of The Maple Leaf Rubber Co., Limited (Port Dalhousie, Canada), was torn off, with most of the roof of the warehouse.

The death is reported, in his seventy-first year, of Mr. W. D. Tucker, for more than thirty years engineer with the Canadian Rubber Co. of Montreal, Limited.

The handsome calendar of the Dunlop Tire and Rubber Goods Co., Limited (Toronto), mentioned in the last *INDIA RUBBER WORLD*, was executed by The Hough Lithographing Co., Limited (Toronto), the president of which is Mr. Alexander Macpherson, who for many years and until recently was connected in an important way with the rubber trade in the Dominion.

Quotations for shares in the Canadian Consolidated Rubber Co., Limited, show a marked advance of late. On the Montreal stock exchange, May 19, the common stock sold from 79 in the

early afternoon session to 90 at the close. The preferred closed at 118 bid and 119 asked. Shares of common have sold within a year as low as 20 and the preferred at par.

TRADE NEWS NOTES.

THE Hon L. D. Apsley, president of the Apsley Rubber Co. (Hudson, Massachusetts), spent a recent vacation at Hot Springs, Arkansas.

Mr. Oliver W. Howe, proprietor of Howe's Rubber Store, at Lynn, Massachusetts, advises *THE INDIA RUBBER WORLD* that the fire reported in the last issue of this paper caused damage to his business of only \$2,500, which loss was fully covered by insurance. The store was closed only three days.

Announcement is made by Farrel Foundry and Machine Co. (Ansonia, Connecticut) of their opening a branch office at Cleveland, Ohio—No. 1011 Williamson Building. For some years past the business of the company in that region has increased to such an extent as to make advisable an office in the central west in order to keep more closely in touch with the development of the rubber industry. The new office will be in charge of Mr. George W. Osborn, who has been connected with the firm's main office for ten years or more.

B. Loewenthal & Co. announce the removal of their New York offices and waste rubber warehouse from Greenwich street to Nos. 481-483 Washington street, near Canal.

Maurice C. Clark has become general manager of La Crosse Rubber Mills Co. (La Crosse, Wisconsin).

Harrison C. Frost has been made manager of the Arkon Carbon Co., miners of the hydrocarbon "Arkon," with headquarters in Chicago.

DEARER RUBBER AND BRITISH CYCLE TIRES.

THE past few weeks have witnessed a considerable advance in the market price of raw rubber, and this has compelled certain tire manufacturers to increase their prices to cycle manufacturers. This increase has generally taken the form of an advance of 5 per cent., or 7½ per cent. on the prices embodied in the season's list, and in many cases this advance presses hardly on the cycle maker or dealer who is unable to increase the prices charged to the public for complete machines. The situation is in some respects a difficult one, but is only preventable where tire and rubber firms can anticipate fluctuations by buying or placing contracts well ahead. The manufacturers of the "Liberty" tire are in this happy position, and there will be no advance in the price of these tires. The North British Rubber Co., Limited, the makers of the "Clincher," have also decided to supply their tires at the prices fixed at the beginning of the season, and have withdrawn the advance of 5 per cent. which was announced at the time of the rise in rubber.—*Scottish Cyclist, Edinburgh, April 21.*

PROGRESS IN VACUUM CLEANING.

INTEREST in the vacuum cleaning processes continues to develop in Great Britain, where the British Vacuum Cleaner Co., Limited, together with its various subsidiary companies, have been active for the last six years. A new development of this system is mentioned in *Electrical Engineering*, which reports the success of vacuum cleaning under Booth's patents for cleaning boiler flues in some large works in Bradford, Yorkshire. It is mentioned that two men with the vacuum system can do as much work cleaning boiler flues in three hours as formerly required three men working ten hours.

THE registered telegram address "Goodrich, Stockholm" is used by Amerikanska Gummi-Aktiebolaget, general agents in Sweden, Norway and Finland for The B. F. Goodrich Co. (Akron, Ohio). The Stockholm house carries stocks of Goodrich automobile and bicycle tires, mechanical rubber goods and drug-gists' sundries.

MOTOR AND TIRE INTERESTS.

THE Automobile Club of America now has a membership so large, and its activities are so varied and extensive, that it has been deemed wise to establish an official paper to enable the members, wherever they may be, to keep in touch with the association's work. This is entitled *The Club Journal*, and is issued bi-weekly from the building of the club, No. 247 West Fifty-fourth street, New York. *The Club Journal* is attractively got up and contains a number of articles of interest on motoring and also on aeronautics, in addition to club news.



GIBNEY WIRELESS TIRE FOR MOTOR TRUCKS.
(James L. Gibney & Brother, Philadelphia.)

The new journal resembles in character the *Revue de l'Association Generale Automobile*, founded under the patronage of the Automobile Club of France.

The B. F. Goodrich Co. of New York have issued a letter to dealers in tires announcing that they do not sell to any automobile club, as they would consider such action a direct attack on the legitimate dealers' business. It will be remembered that some time ago, Mr. André Michelin, of the Michelin firm at Clermont-Ferrand, severed his connection with the automobile club of which he was a member because of its action, together with the affiliated clubs, in organizing a service for the supplying of members with tires at reduced rates.

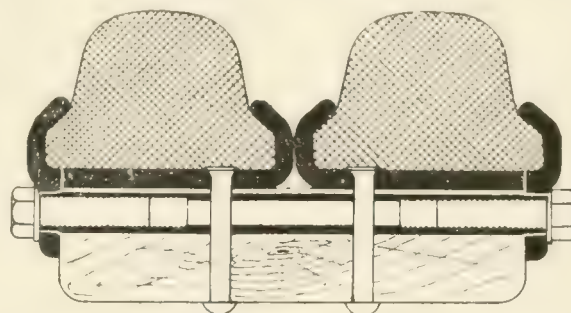
The Empire Tire Co. have moved their Chicago headquarters to a new location—No. 1305 Michigan avenue, where they occupy a well-arranged two-story building.

The Firestone Tire and Rubber Co. (Akron, Ohio) announce the early opening of their plant at Seattle, Washington, in charge of Ed L. Campion, formerly of the Firestone's Chicago branch.

The city of New York recently invited bids on 280 bicycle tires for use in the department of street cleaning. The contract was awarded to Combination Ladder Co. (Providence, Rhode Island), for \$859.77. The Combination company have not hitherto figured in the tire trade.

The directors of Dunlop Pneumatic Tyre Co., Limited, have declared dividends for the six months ended March 31, 1909, at the rate of 5 per cent. per year on the preference shares, 8 per cent. on the ordinary shares and 6 per cent. on the preferred shares.

Carpenter's Non-Puncturable Resilient Tyres, Limited, regis-



"FARANSURE" DETACHABLE TIRE.
(S. Stevenson & Co., Glasgow, Scotland.)

tered in London, April 29, 1909; capital, £100,000. To acquire patents relating to tires, to adopt an agreement with A. W. Carpenter, and to carry on the business of manufacturing tires. Registered office: 26 Old Broad street, E. C., London.

Sixty-five shares of the American Bicycle Co. were sold at public auction in New York on May 5, together with 21 shares in other corporations, the lot going for \$13. This is published as possibly the last item in the record of the once great bicycle "trust."

In Paris has been formed the Société Fermière de l'Automatique Ducasble, with 500,000 francs capital, to make and sell the patented elastic tires known as the "Ducasble automatic." Offices: 148, avenue Malakoff.

Mr. Arthur E. Friswell, widely known as an expert in the tire industry, has severed his connection with the Hartford Rubber Works Co.

Review of the Crude Rubber Market.

CURRENT quotations for crude rubber at New York are higher than any reported by THE INDIA RUBBER WORLD during the past twenty years. The advance, which has been progressive during the whole month past, is believed by many in the trade not to have reached its limits. The near approach to the end of the Amazon crop season, the existence of not larger than normal visible supplies, and the apparent activity of the rubber industry are three factors to be considered, and none points to lower prices in the near future. The advance relates to all grades of rubber covered by our reports, and not merely or chiefly to Pará sorts. Otherwise more importance might be attached to any suggestion of influence on prices by Brazilian interests. It may be of interest to compare the highest prices quoted in the pages hitherto, for a few leading grades, with current figures:

	July, 1905.	To-day.
Upriver fine Pará, old.....	\$1.33@1.34	\$1.35@1.36
Massai, red	1.00@1.01	99@1.00
Esmeralda sausage.....	.84@.85	.85@.86

Arrivals at Pará continue in good volume, the total (including caucho) since the beginning of the crop season being longer than in any previous year, except 1906-07—the banner year. Up to May 25 the arrivals totaled 35,845 tons. Up to June 1

the arrivals for three preceding seasons were: 32,840 tons in 1906; 36,505 tons in 1907; and 34,990 tons in 1908.

Following are the quotations of New York for Pará grades, one year ago, one month ago, and May 28—the current date:

PARÁ.	June 1, '08.	May 1, '08.	May 28.
Islands, fine, new.....	89@ 90	123@ 124	131@ 132
Islands, fine, old.....	none here	124@ 125	132@ 133
Upriver, fine, new.....	92@ 93	126@ 127	134@ 135
Upriver, fine, old.....	94@ 95	128@ 129	135@ 136
Islands, coarse, new.....	46@ 47	58@ 59	66@ 67
Islands, coarse, old.....	none here	none here	70@ 71
Upriver, coarse, new.....	64@ 65	64@ 65	98@ 99
Upriver, coarse, old.....	none here	none here	none here
Caucha	68@ 69	77@ 78	77@ 78
Caucho (Peruvian), ball.....	49@ 50	84@ 85	87@ 88
Caucho (Peruvian), sheet....	61@ 62	70@ 71	76@ 77
Ceylon (Plantation), fine sheet	102@103	132@ 133	135@ 136

AFRICAN.		
Lopori ball, prime....	108@ 109	Massai, red
Lopori strip, prime....	—@ —	Soudan niggers
Aruwimi	96@ 97	Cameroon ball.....
Upper Congo, ball,		Benguela
red	100@ 101	Madagascar, pinky....
Ikelamba	—@ —	Accra flake.....
Sierra Leone, 1st qual-		
ity	99@ 100	

CENTRALS.

Emeralda, sausage... 85@ 86	Mexican, scrap..... 82@ 83
Guayaquil, strip 73@ 74	Mexican, slab 61@ 62
Nicaragua, scrap..... 81@ 82	Mangabeira, sheet..... 55@ 56
Panama 67@ 68	Guayule 34@ 35

EAST INDIAN.

Assam 95@ 96	Borneo 35@ 45
Pontianak 43@ 44	

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine..... 6\$200		Upriver, fine..... 7\$450	
Islands, coarse..... 2\$600		Upriver, coarse..... 5\$450	
		Exchange 15 5-32d.	

Latest Manáos advices:

Upriver, fine..... 7\$500	Exchange 15 5-32d.
Upriver, coarse..... 5\$500	

Statistics of Para Rubber (Excluding Caucho).

		NEW YORK.					
		Fine and	Coarse.	Total	Total	Total	
		Medium.		1909.	1908.	1907.	
Stocks, March 31.....	<i>tons</i>	329	122	451	320	125	
Arrivals, April		870	535	1405	....	1855	
Aggregating		1109	657	1856	....	1985	
Deliveries, April		815	498	543	....	1703	
Stocks, April 30.....		384	150	1313	375	277	
		PARA.			ENGLAND.		
		1909.	1908.	1907.	1909.	1908.	1907.
Stocks, March 31.....	<i>tons</i>	1561	975	985	330	1975	810
Arrivals, April		2350	....	3260	1440	....	1165
Aggregating		3911	....	4245	1770	....	1975
Deliveries, April		2976	....	3735	1050	....	1025
Stocks, April 30.....		935	635	510	720	2005	950
				1909.	1908.	1907.	
World's visible supply, April 30.....				<i>tons</i>	3,828	....	3,487
Pará receipts, July 1 to April 30.....					27,670	....	28,695
Pará receipts of caucho, same dates.....					6,690	....	5,075
Afloat from Pará to United States, April 30					477	....	498
Afloat from Pará to Europe, April 30....					1,153	....	970

In regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street, New York), advises as follows: "During May the demand for commercial paper has continued good, the usual run of rubber names being quoted at 4 1/2@4 3/4 per cent. for the best; and 5@5 1/2

per cent. for those not so well known, and the supply rather limited."

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for carload lots, per pound—show practically no change since last month:

Old rubber boots and shoes—domestic.....	8 1/2@ 8 3/4
Old rubber boots and shoes—foreign.....	8 1/2@ 8 3/4
Pneumatic bicycle tires.....	5 1/2@ 6
Automobile tires	5 1/2@ 6
Solid rubber wagon and carriage tires.....	7 @ 7 1/2
White trimmed rubber.....	9 1/2@ 10
Heavy black rubber.....	5 @ 5 1/4
Air brake hose.....	3 @ 3 3/4
Garden hose.....	2 @ 2 1/2
Fire and large hose.....	2 3/4@ 3
Matting	1 1/4@ 1 1/2

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

APRIL 26.—By the steamer *Cuthbert*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	117,700	28,500	84,500	16,600	247,300
A. T. Morse & Co.	87,400	3,100	21,300	105,000	216,800
Poel & Arnold.....	52,900	9,300	99,500	24,700	186,400
Edmund Reek & Co.	11,100	1,400	7,900	97,800	118,200
General Rubber Co.	18,100	7,200	23,000	30,600	78,900
Hagemeyer & Brunn.....	12,500	.....	18,500	.....	31,000
Lawrence Johnson & Co.	12,300	200	12,300	14,400	28,100
C. P. dos Santos.....	.....	.....	14,500	.....	14,500
L. Hagenaers & Co.	1,200	.....	.....	.....	1,200
Total	302,100	49,700	281,500	289,100	922,400

MAY 5.—By the steamer *Basil*, from Manáos and Pará:

New York Commercial Co.	173,400	33,900	68,900	78,100	354,300
Poel & Arnold.....	90,800	9,000	111,800	62,900	274,500
A. G. Morse & Co.	74,500	9,000	44,000	1,300	128,800
General Rubber Co.	64,600	15,400	137,700	46,200	263,900
Hagemeyer & Brunn.....	38,400	.....	55,400	.....	93,800
Edmund Reek & Co.	8,500	1,800	9,200	53,100	24,800
Lawrence Johnson & Co.	.....	.....	16,400	5,300	21,700
C. P. dos Santos.....	.....	.....	16,500	.....	16,500
Thomsen & Co.	300	1,400	300	2,700	4,700
Total	450,500	70,500	400,200	201,800	1,123,000

MAY 14.—By the steamer *Munichense*, from Manáos and Pará:

General Rubber Co.	62,700	27,700	72,600	12,700	205,700
Poel & Arnold.....	70,300	23,400	60,500	68,300	228,200
New York Commercial Co.	47,600	20,300	26,800	35,800	130,500
Hagemeyer & Brunn.....	18,100	1,400	27,100	29,700	73,300
A. T. Morse & Co.	10,000	.....	52,900	.....	72,500
Lawrence Johnson & Co.	22,800	.....	.....	.....	22,500
Edmund Reek & Co.	2,100	.....	6,600	.....	8,700
Czarnikow, MacDougall Co.	4,100	.....	.....	.....	4,100
G. Amsinck & Co.	.....	.....	1,500	.....	1,500
Total	279,700	72,800	246,500	148,000	747,000

PARA RUBBER VIA EUROPE.

APRIL 21.—By the <i>Carmania</i> Liverpool:		
General Rubber Co. (Fine)...	67,000	
General Rubber Co. (Coarse)...	37,000	104,000
APRIL 24.—By the <i>Pennsylvania</i> Hamburg:		
Livesey & Co. (Coarse).....	21,000	
APRIL 30.—By the <i>Mauretania</i> Liverpool:		
General Rubber Co. (Coarse)...	13,500	
New York Com. Co. (Coarse)...	3,500	17,000
MAY 1.—By the <i>Maracas</i> Bolivar:		
General Export Co. (Fine)...	8,500	
General Export Co. (Coarse)...	2,500	11,000
MAY 4.—By the <i>Minnetonka</i> London:		
General Rubber Co. (Coarse).....	60,000	
MAY 5.—By the <i>Coronia</i> Liverpool:		
General Rubber Co. (Coarse)...	11,000	
Livesey & Co. (Coarse).....	11,500	22,500
MAY 5.—By the <i>Blueche</i> Hamburg:		
Geo. A. Alden & Co. (Coarse).....	25,000	
MAY 5.—By the <i>Oceania</i> London:		
Poel & Arnold (Coarse).....	65,000	
MAY 10.—By the <i>Cedric</i> Liverpool:		
Poel & Arnold (Coarse).....	22,500	
MAY 17.—By the <i>Baltic</i> Liverpool:		
Poel & Arnold (Coarse).....	67,000	

MAY 17.—By the <i>New York</i> London:		
George A. Alden & Co. (Coarse).....	55,000	
MAY 19.—By the <i>Carmania</i> Liverpool:		
New York Co. Co. (Coarse)...	38,000	
Poel & Arnold (Coarse).....	27,000	
Raw Products Co. (Coarse)...	20,000	85,000

MAY 21.—By the <i>Mauretania</i> Liverpool:		
Poel & Arnold (Coarse)...	11,500	
New York Com. Co. (Coarse)...	11,000	22,500

OTHER NEW YORK ARRIVALS.

CENTRALS.

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

POUNDS.		
APRIL 21.—By the <i>Grecian Prince</i> Bahia:		
Poel Arnold	11,000	
APRIL 23.—By the <i>Hugin</i> Tampico:		
Edward Maurer	*155,000	
APRIL 24.—By the <i>El Alba</i> Galveston:		
Edward Maurer	*22,500	
APRIL 26.—By the <i>Colon</i> Colon:		
G. Amsinck & Co.	3,500	
Dunarest Bros. & Co.	3,500	
Pablo, Calvet & Co.	2,000	
Piza Nephews & Co.	1,000	
C. Bernheim & Co.	1,000	11,000
APRIL 26.—By the <i>Morro Castle</i> Mexico:		
H. Marquardt & Co.	10,000	

Harburger & Stack.....	7,500
General Export & Com. Co.	3,500
Strube & Ultze.....	3,500
Adrians & Bauer.....	1,500
Isaac Kubic & Co.	1,500
Scholz & Marturet.....	1,500
Graham, Hinkley & Co.	1,000
Total	30,000

APRIL 26.—By the <i>Eel Mar</i> Galveston:	
Continental-Mexican Rubber Co.	*150,000

APRIL 27.—By the <i>Bayanco</i> Tampico:	
New York Commercial Co.	*90,000
Poel & Arnold.....	*55,000
Edward Maurer	*3,500
Total	*180,000

APRIL 29.—By the <i>Olimpo</i> Columbia:	
G. Amsinck & Co.	4,500
Kunhardt & Co.	3,000
A. M. Capen's Sons.....	3,500
R. Del Vallejo & Co.	1,500
De Lima & Cortissoz & Co.	1,000
Eggers & Hemlein.....	1,000
Wessels, Kulenpamff & Co.	1,000
Total	15,000

APRIL 29.—By the <i>El Norte</i> Galveston:	
Continental-Mex. Rubber Co.	*150,000
For Boston	6,500
Total	*156,500

MAY 3.—By the <i>Thespis</i> Bahia:	
J. H. Rossbach & Bros.	30,000
New York Commercial Co.	22,000
A. Hirsch & Co.	13,500
Poel & Arnold.....	11,000
A. D. Hirsch & Co.	11,000
Total	88,000

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it DOES NOT BLOW UNDER CURE.

WRITE FOR PRICES.

Massachusetts Chemical Co., Walpole, Mass.

Sole Factors:
WALPOLE RUBBER WORKS—
WALPOLE JAPANESE WORKS—
ELECTRIC INSULATION LABORATORY

WE ARE OFFERING SCRAP RUBBER AT LOW PRICES



Theodore Hofeller & Company
BUFFALO, N. Y.

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- ☞ Would you like to prevent the cracking of your rubbers?
- ☞ Our MALTHA HYDRO-CARBON retains its pliability at zero weather.
- ☞ Drop us a line, and with pleasure we'll send you a working sample gratis.

AMERICAN WAX COMPANY, 161 Summer St., Boston, Mass.

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CHEMICAL IN THE
RUBBER TRADE

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I invite inquiries from manufacturers on this rubber. Being the direct representative of large producers, I am in position to quote on various qualities for immediate and future delivery.

Telegraphic Address.
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GUAYULE

Made by mechanical process only, of strictly fresh shrub.

No chemicals used.



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97 Water St., NEW YORK

Sole Representative of the MADERO interests in Mexico,

Largest Producers of Guayule Rubber, Operating Nine Factories.

MAY 3.—By the <i>Mexico</i> —Frontera:		
Harburger & Stack.....	10,500	
E. N. Tibbals & Co.....	3,500	
H. Marquardt & Co.....	3,500	
J. W. Wilson & Co.....	2,500	
Manhattan Rubber Mfg. Co.....	3,000	
Struber & Ulitz.....	2,500	
Graham, Hinkley & Co.....	2,500	
American Trading Co.....	2,000	30,000

MAY 3.—By the <i>Celtic</i> —Liverpool:		
Rubber Trading Co.....	5,500	

MAY 3.—By the <i>Yiglonia</i> —Tampico:		
Edward Maurer.....	*155,000	
New York Commercial Co.....	*55,000	
For Akron.....	*35,000	*245,000

MAY 3.—By the <i>Panamaz</i> —Colon:		
Piza Nephews & Co.....	12,000	
G. Amsinck & Co.....	2,500	
L. Johnson & Co.....	2,000	
Demarest Bros. & Co.....	2,000	18,500

MAY 4.—By the <i>Momus</i> —New Orleans:		
A. T. Morse & Co.....	2,000	
Manhattan Rubber Mfg. Co.....	1,500	3,500

MAY 4.—By the <i>El Siglo</i> —Galveston:		
Continental-Mexican Rubber Co.....	*50,000	

MAY 4.—By the <i>Prins Joachim</i> —Costa Rica:		
Suzarte & Whitney.....	2,500	
Roldau & Van Sickle.....	2,000	
Wessels, Kulenkampff & Co.....	1,000	
G. Amsinck & Co.....	1,000	6,500

MAY 6.—By the <i>Prinz Frederik</i> —Colombia:		
A. Held.....	5,000	
Kunhardt & Co.....	2,500	7,500

MAY 10.—By the <i>Monterey</i> —Mexico:		
Graham, Hinkley & Co.....	5,500	
H. Marquardt & Co.....	2,500	
Isaac Kubie Co.....	1,000	
J. W. Wilson & Co.....	1,000	10,000

MAY 10.—By the <i>Advance</i> —Colon:		
Hitzel, Feltmann & Co.....	3,500	
Isaac Brandon & Bros.....	3,000	
G. Amsinck & Co.....	1,500	
Meyer Hecht.....	1,000	
Eggers & Heinlein.....	1,000	10,000

MAY 10.—By the <i>Yumari</i> —Tampico:		
Edward Maurer.....	*34,000	
New York Commercial Co.....	*33,000	*67,000

MAY 12.—By the <i>Sarna</i> —Greytown:		
G. Amsinck & Co.....	15,000	
A. Rosenthal Sons.....	3,500	
Angela & Torothilo.....	2,500	
L. Delus & Co.....	1,000	
Mecke & Co.....	1,000	
Isaac Brandon & Bros.....	1,000	
Henry Mann & Co.....	1,000	25,000

MAY 13.—By the <i>Comus</i> —New Orleans:		
A. T. Morse & Co.....	6,000	
Manhattan Rubber Mfg. Co.....	1,000	
A. N. Rotholz.....	1,000	
A. C. Brewer & Co.....	1,000	
Eggers & Heinlein.....	1,000	10,000

MAY 14.—By the <i>Alleghany</i> —Columbia:		
Maitland, Coppell & Co.....	5,000	
G. Amsinck & Co.....	2,000	
A. Held.....	1,500	8,500

MAY 24.—By the <i>Alliance</i> —Colon:		
G. Amsinck & Co.....	3,500	
De Lima, Cortissoz & Co.....	2,000	
Henry Mann & Co.....	1,500	
J. J. Julia & Co.....	1,000	
R. G. Borthold.....	1,000	
Silva Bussenius Co.....	1,000	10,000

MAY 14.—By the <i>El Paso</i> —Galveston:		
E. S. Churchill.....	*22,500	

MAY 15.—By the <i>Merida</i> —Mexico:		
Harburger & Stack.....	5,500	
Graham, Hinkley & Co.....	4,500	
E. N. Tibbals & Co.....	2,500	
General Export & Com Co.....	2,500	
H. Marquardt & Co.....	2,000	
E. Steiger & Co.....	2,000	
A. Klipstein & Co.....	1,000	20,000

MAY 17.—By the <i>Italian Prince</i> —Bahia:		
New York Commercial Co.....	34,000	
J. H. Rosbach & Bros.....	28,000	
A. Hirsch & Co.....	28,000	90,000

MAY 18.—By the <i>Cientuegos</i> —Tampico:		
Edward Maurer.....	*75,000	
Poel & Arnold.....	*25,000	
Diamond Rubber Co.....	*34,000	*134,000

MAY 19.—By the <i>Prins Willem</i> —Greytown:		
J. J. Julia & Co.....	6,000	
G. Amsinck & Co.....	1,500	
United Fruit Co.....	1,500	
Isaac Brandon & Bros.....	1,000	10,000

MAY 20.—By the <i>El Monte</i> —New Orleans:		
Silverstein & Kohen.....	6,000	

MAY 20.—By the <i>Cape Colony</i> :		
Hitzel, Feltmann & Co.....	3,500	
Isaac Brandon & Bros.....	2,000	
L. Johnson & Co.....	2,000	
G. Amsinck & Co.....	1,000	
J. J. Julia & Co.....	1,000	9,500

AFRICAN.

APRIL 24.—By the <i>Pennsylvania</i> —Hamburg:		
George A. Alden & Co.....	15,000	
General Rubber Co.....	11,000	26,000

APRIL 24.—By the <i>Hudson</i> —Havre:		
George A. Alden & Co.....	13,500	

APRIL 29.—By the <i>President Lincoln</i> —Hamburg:		
Poel Arnold.....	40,000	
George A. Alden & Co.....	8,000	
General Rubber Co.....	7,000	
Livesey & Co.....	2,000	
A. T. Morse & Co.....	1,500	58,500

MAY 3.—By the <i>Celtic</i> —Liverpool:		
George A. Alden & Co.....	37,000	
Rubber Trading Co.....	3,500	40,500

MAY 4.—By the <i>Zeeland</i> —Antwerp:		
A. T. Morse & Co.....	45,000	

MAY 5.—By the <i>Coronia</i> —Liverpool:		
George A. Alden & Co.....	56,000	
Livesey & Co.....	4,500	60,500

MAY 1.—By the <i>Bluecher</i> —Hamburg:		
George A. Alden & Co.....	10,000	
W. L. Gough Co.....	4,000	14,000

MAY 5.—By the <i>Oceanic</i> —London:		
Livesey & Co.....	11,500	

MAY 7.—By the <i>Providence</i> —Havre:		
George A. Alden & Co.....	27,000	

MAY 8.—By the <i>Campania</i> —Liverpool:		
Poel & Arnold.....	11,500	

MAY 10.—By the <i>Amerika</i> —Hamburg:		
George A. Alden & Co.....	12,500	
Poel & Arnold.....	4,000	16,500

MAY 10.—By the <i>Cedric</i> —Liverpool:		
General Rubber Co.....	67,000	

MAY 11.—By the <i>Kroonland</i> —Antwerp:		
A. T. Morse & Co.....	35,000	
Joseph Cantor.....	8,000	
Henry A. Gould Co.....	4,500	47,500

MAY 17.—By the <i>Baltic</i> —Liverpool:		
Poel & Arnold.....	13,500	
A. T. Morse & Co.....	5,500	
George A. Alden & Co.....	2,500	21,500

MAY 17.—By the <i>Caroline</i> —Havre:		
A. G. Ringh & Co.....	7,000	

MAY 17.—By the <i>Lapland</i> —Antwerp:		
A. T. Morse & Co.....	75,000	
George A. Alden & Co.....	55,000	
Poel & Arnold.....	30,000	
Livesey & Co.....	5,000	
W. H. Stiles & Co.....	5,500	
Raw Products Co.....	3,500	
Joseph Cantor.....	2,000	176,000

MAY 17.—By the <i>Cleveland</i> —Hamburg:		
Livesey & Co.....	15,000	
W. L. Gough Co.....	13,500	
General Rubber Co.....	9,000	37,500

MAY 10.—By the <i>Carmania</i> —Liverpool:		
George A. Alden & Co.....	20,000	
Poel & Arnold.....	13,500	
General Rubber Co.....	50,000	83,500

MAY 20.—By the <i>President Grant</i> —Hamburg:		
George A. Alden & Co.....	45,000	
A. T. Morse & Co.....	13,500	
W. L. Gough Co.....	13,500	
Rubber Trading Co.....	7,000	
Poel & Arnold.....	3,000	82,000

MAY 20.—By the <i>Adriatic</i> —London:		
Livesey & Co.....	11,500	

EAST INDIAN.

[*Denotes plantation rubber.]

APRIL 22.—By the <i>Clan MacIver</i> —Colombo:		
A. T. Morse & Co.....	*17,000	

APRIL 26.—By the <i>St. Louis</i> —London:		
New York Commercial Co.....	*11,500	

APRIL 26.—By the <i>Tannefels</i> —Colombo:		
New York Commercial Co.....	*5,000	
A. T. Morse & Co.....	*4,500	*9,500

APRIL 20.—By the <i>Mesaba</i> —London:		
New York Commercial Co.....	*33,500	
Poel & Arnold.....	*20,000	
Poel & Arnold.....		76,000

APRIL 30.—By the <i>Mesaba</i> —London:		
A. T. Morse & Co.....	*11,500	
Robinson & Co.....	3,000	14,500

MAY 3.—By the <i>Philadelphia</i> —London:		
New York Commercial Co.....	*35,000	
A. T. Morse & Co.....	*11,500	
Poel & Arnold.....	*4,500	*51,000

MAY 8.—By the <i>Scharzfels</i> —Colombo:		
A. T. Morse & Co.....		

MAY 5.—By the <i>Headley</i> —Singapore:		
O. Isenstein & Co.....	25,000	
Heabler & Co.....	25,000	
W. L. Gough Co.....	11,500	
Poel & Arnold.....	6,500	
George A. Alden & Co.....	5,000	53,000

MAY 10.—By the <i>St. Paul</i> —London:		
A. T. Morse & Co.....	*4,500	
Poel & Arnold.....	20,000	
Robinson & Co.....	2,000	26,500

MAY 10.—By the <i>Mineraska</i> —London:		
General Rubber Co.....		*22,500

MAY 17.—By the <i>Minnehaha</i> —London:		
A. T. Morse & Co.....	*13,000	

MAY 17.—By the <i>Lapland</i> —Antwerp:		
Poel & Arnold.....		*22,500

MAY 17.—By the <i>New York</i> —London:		
New York Commercial Co.....	*22,500	
Poel & Arnold.....	*35,000	
A. T. Morse & Co.....	7,000	*64,500

MAY 19.—By the <i>Ghazee</i> —Singapore:		
O. Isenstein & Co.....	11,500	
George A. Alden & Co.....	7,500	
Heabler & Co.....	4,500	23,500

MAY 20.—By the <i>Adriatic</i> —London:		
Poel & Arnold.....	*9,000	
Poel & Arnold.....	22,000	31,000

GUTTA-JELUTONG.

MAY 5.—By the <i>Headley</i> —Singapore:		
Heabler & Co.....	750,000	
George A. Alden & Co.....	325,000	
Poel & Arnold.....	125,000	
W. L. Gough Co.....	125,000	
L. C. Hopkins Co.....	175,000	1,300,000

MAY 10.—By the <i>Ghazee</i> —Singapore:		
Heabler & Co.....	700,000	
George A. Alden & Co.....	225,000	
D. A. Shaw & Co.....	135,000	
W. L. Gough Co.....	135,000	
L. C. Hopkins & Co.....	150,000	1,345,000

GUTTA-PERCHA.

APRIL 24.—By the <i>Amerika</i> —Hamburg:		
E. Oppenheim.....		17,500

MAY 10.—By the <i>Ghazee</i> —Singapore:		
O. Isenstein & Co.....		22,500

BALATA.

MAY 1.—By the <i>Maracas</i> —Trinidad:		
J. A. Pauli & Co.....		3,000

MAY 10.—By the <i>Maraval</i> —Trinidad:		
G. Amsinck & Co.....		2,500

MAY 17.—By the <i>Italian Prince</i> —Trinidad:		
Middleton & Co.....		5,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—APRIL.

Imports:	Pounds.	Value.
India rubber	6,949,443	\$3,140,669
Balata	28,069	11,269
Gutta-percha	275,525	26,433
Gutta-jelutong (Pontianak).	1,351,060	51,012
Total	8,595,147	\$3,277,885
Exports:		
India rubber	118,082	\$13,397
Balata	7,428	2,709
Reclaimed rubber	7,344	7,415
Rubber scrap imported.....	1,617,003	\$114,244



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JUNE 1, 1909.

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Antwerp.

RUBBER STATISTICS FOR APRIL.

DETAILS.	1909.	1908.	1907.	1906.	1905.
Stocks, Mar. 31.....kilos	595,855	1,136,892	725,538	641,650	323,945
Arrivals in April.....	330,277	211,549	304,873	392,199	651,928
Congo sorts.....	219,645	175,000	229,927	298,733	540,774
Other sorts.....	110,632	36,549	74,946	93,466	111,154
Aggregating.....	926,132	1,348,441	1,030,411	1,033,849	975,873
Sales in April.....	318,345	630,528	568,838	153,391	339,998
Stocks, April 30.....	607,787	717,913	461,573	880,458	635,875
Arrivals since Jan. 1.....	1,458,369	1,729,358	1,637,631	2,071,689	1,932,955
Congo sorts.....	1,001,032	1,522,423	1,381,992	1,573,515	1,542,898
Other sorts.....	457,337	206,935	255,639	498,174	390,057
Sales since Jan. 1.....	1,446,317	2,018,339	1,834,242	1,926,418	1,838,441

Antwerp.

RUBBER ARRIVALS FROM THE CONGO.

MAY 3.—By the steamer *Albertville*:

Bunge & Co.....	(Société Générale Africaine) kilos	86,000
Do.....	(Société Abir).....	700
Do.....	(Comité Spécial Katanga).....	8,000
Do.....	(Société Anversoise).....	7,200
Do.....	(Umanghi).....	900
Do.....	(Comptoir Commercial Congolais).....	4,500
Do.....	(Chemins de fer Grands Lacs).....	4,000
Do.....	(Cie. du Kasai).....	145,000
Société Coloniale Anversoise.....	(Belge du Haut Congo).....	2,050
Do.....	(Sud Cameron).....	6,300
Do.....	(Cie. du Lomami).....	11,900
G. & C. Kreglinger.....	(Lobay).....	10,600
L. & W. Van de Velde.....		5,500 292,650

Plantation Rubber.

EXPORTS FROM THE FAR EAST.

From Ceylon—January 1 to April 19:	
1909.....pounds	289,603
1908.....	202,726
1907.....	115,878

From Singapore—January 1 to April 8:	
1909.....pounds	689,435
1908.....	535,600
1907.....	358,768

From Penang—January 1 to March 22:	
1909.....pounds	744,110
1908.....	246,620
1907.....	31,733

PLANTATION YIELDS (IN POUNDS).

<i>Anglo-Malay Rubber Co.:</i>	1908.	1909.
Four months to April 30.....	100,387	142,971
<i>Bukit Rajah Rubber Co.:</i>		
Year to March 31.....	163,521	208,150
April.....	10,841	17,120
<i>Consolidated Malay Rubber Estates:</i>		
April.....	7,636	11,385
Four months to April 30.....	22,009	52,273
<i>Damansara (Selangor) Rubber Co.:</i>		
Three months to March 31.....	24,587	32,124
<i>Kuala Lumpur Rubber Co.:</i>		
Ten months to April 30.....	(a)	157,210
<i>Lanadron Rubber Estates:</i>		
Four months to April 30.....	49,838	65,928
<i>Linggi Plantations:</i>		
April.....	19,000	41,500
<i>Malacca Rubber Plantations:</i>		
April.....	(a)	15,500
<i>Pataling Rubber States Syndicate:</i>		
Four months to April 30.....	(b) 18,301	39,804
<i>Perak Rubber Plantations:</i>		
April.....	527	4,089
<i>Vallambrosa Rubber Co.:</i>		
April.....	18,000	23,742
<i>Selangor Rubber Co.:</i>		
April.....	(a)	23,856

[a figures not available. b wet rubber.]

Liverpool.

WILLIAM WRIGHT & Co. report [May 1]:

Fine Pará.—The shortage, mentioned in our last, for spot rubber continued, and prices advanced to 5s. 4¾d., but close slightly easier with sellers at 5s. 4½d. For delivery a good business has been done; prices have fluctuated to a moderate extent, but that there is a strong undercurrent of strength is shown by the fact that at each decline of about 1d. per pound a reaction has taken place. With the advent of small receipts and strong holdings of stock, we anticipate, even should general manufacturing demand not improve, small fluctuations, but should the demand from the trade improve, an advance on present values is certain, the extent of which will be governed for the month by the quantity required.

African Rubbers.

NEW YORK STOCKS (IN TONS).

January 1, 1908.....	156	October 1, 1908.....	134
February 1.....	224	November 1.....	134
March 1.....	123	December 1.....	179
April 1.....	201	January 1, 1909.....	156
May 1.....	165	February 1.....	157
June 1.....	446	March 1.....	200
July 1.....	334	April 1.....	178
August 1.....	145	May 1.....	268
September 1.....	133		

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INDIA RUBBER WORLD

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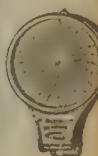
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TABLE OF CONTENTS ON LAST PAGE READING MATTER.

THE CONGRESS AND BUSINESS.

IT is inevitable under a representative government, such as exists in the United States, that the legislative discussion of a matter of such widespread interest as revising the tariff schedules should consume much time. The Congress frames every law without the initiative or control of any other branch of the government, and not only has every senator and member the right to be heard, but the constituents of every one may be demanding that he speak publicly in their special interest.

The diversity of interest on many points leads to discussion, as is intended in the very foundation and theory of the American system. The *Congressional Record*, during the special session at Washington, has been running to an average of fifty large pages per day, devoted mainly to the tariff debates, and a perusal of the contents—whatever else they may embrace—suggests a vast amount of intelligent study and forceful argument by men of national reputation for capacity and integrity. Such are the men who are attempting to frame a new tariff law—something which in no country can be accomplished in a hurry.

It is to be regretted that business conditions should be disturbed in any sense by the pending of important legislation, but THE INDIA RUBBER WORLD has contended

always that the tariff question in America has figured far too large in the public mind, and that such obstruction to trade as now seems to exist—so far as any action by the Congress is concerned—is mostly a “state of mind.”

THE HIGH PRICE OF RUBBER.

THE topic of chief interest and importance to the rubber trade to-day is the high cost of rubber, and this involves the consideration of whether lower prices are a near possibility. It may be that the rates just now prevailing will not be long maintained, but no present indication points to really cheap rubber. A salient fact is that the recent record high prices accompanied probably the largest production of the raw material in any year, from a constantly increasing number of sources, under conditions which preclude any idea that supplies have been under manipulative control, and in spite of the fact that the market is soon to receive larger quantities of rubber from plantations. Clearly the explanation is in a growing demand for rubber in the industries—a larger production of goods either actual or in prospect.

It is of interest, therefore, to consider the probable output of rubber in the early future. The growing production on plantations has been mentioned; there is reason to believe that the Amazon region will continue slowly to increase its yield, year by year, as has been the case for a half century, as the available working force can be augmented. The net total supply from other forest sources, for reasons which THE INDIA RUBBER WORLD has suggested so often, does not promise any increase. Meanwhile the world's needs for rubber grow incessantly. Can the plantations keep pace with the growing demand?

From time to time THE INDIA RUBBER WORLD has reported on the progress of typical plantations of *Hevea*, as it does in this issue, the point of each report being a rapid increase of annual yield and a lower cost of production. But still the total plantation yield is too small to be of great present importance to the industry; it is of interest more from the promise which it gives for the future. While all the plantations that have been formed may not prove so successful as “Lanadron” or “Vallambrosa,” for example, undoubtedly many millions of trees already planted will in time become prolific yielders of rubber. But, as we have said, the demand for rubber grows.

Our friends in the East continue to discuss the cost of their rubber as compared with Brazilian, evidently with the idea that they possess a marked advantage. This has led us to admit to this issue a communication which argues the question from a Brazilian standpoint. Whatever may be true in the end, it is only fair to give both sides a hearing. But so long as present conditions of supply and demand obtain, the world will need all the rubber that can be produced in the Amazon region as matters exist there. And considering that real “Pará”

rubber has not been produced elsewhere, it is not unlikely that this grade will yet outrank the best plantation rubber in the matter of prices.

Malaysian planters may produce rubber at a low cost, but they cannot meet the world's demand for quantity, nor supply everything that is needed in the way of quality. All of which being true, the world must pay enough for Brazilian rubber to make its production interesting to the *seringueiros*.

AERIAL NAVIGATION AND RUBBER.

WHILE the india-rubber industry, a half century ago, though still new, seemed to its founders to have reached very large proportions, its output in America was still confined chiefly to articles of footwear and abroad, related mostly to waterproof garments. Both these branches have been developed greatly meanwhile, but the growth of the industry on the whole has been due vastly more to newer applications of rubber. Drug-gists' sundries alone call for more rubber than sufficed for the whole needs of the world at the period first referred to. But how small is the consumption in this branch compared with what goes into belting, packing and hose. The most spectacular, by far, of the newer uses of rubber has been for tires, the demand for which apparently grows larger in proportion to the world's population every year. While absolutely less rubber is consumed in another new branch, electrical insulation, it is doubtful whether any other use of the material is growing at a relatively greater rate. These uses alone of the raw material appear to grow more rapidly than the world's existing capacity to produce it, not the least indication of which is the vast absorption of reclaimed rubber—something which Goodyear nor Macintosh nor Hancock appear to have dreamed of.

If the catalogue of the uses of rubber were now complete, doubtless consumption would long keep pace with production, but while the world continues to make industrial progress it is probable that inventors and manufacturers will still find new ways in which to make rubber useful. To-day the most interesting illustration in this line is in the field of aeronautics, concerning which every newspaper daily reports progress, though rubber may not be brought much into public notice as a component part of balloons and flying machines. Rubber is of importance in this connection, however—perhaps not less essential than in the equipment of automobiles and other vehicles.

It would be idle to ignore the definite progress which has been made of late in the navigation of the air, and whether this will eventually become of most importance in its military aspect or for commercial uses, or merely for purposes of pleasure, there cannot fail to be very many aerial vehicles made and sold, and it seems likely that the rubber industry will be called upon to contribute largely to their construction and equipment.

THE GROWING PRACTICE of the rubber producers of the Amazon region in stocking their properties with cattle might be worth while imitating by some planters of rubber a good deal farther north.

WE COMMEND TO THE NOTICE of "UNCLE SAM" the example of Germany, in laying a transatlantic cable to Brazil, as indicating that her statesmen do not hold to the idea of waiting for an important trade with another country to exist before providing facilities for such trade.

HAS ANY ONE SUGGESTED that the present regime of high prices of rubber would afford an opportunity to accumulate a treasury reserve in those Amazon states which tax the exports of this material so heavily?

ABOUT THE ONLY REFERENCE TO RUBBER so far in the prolonged debates on the tariff at Washington has been that by a senator from Iowa—in whose state there is no rubber factory—in relation to wool lined rubber boots, of which there are no imports into the United States.

THE LISTING OF THE SHARES of an American rubber manufacturing company on the Paris *bourse*, if it should lead to a large interest abroad in the company's issues, will not prove a bad advertisement, since the holders of the shares will naturally think of buying the products on which their dividends depend whenever they require goods in that field.

IN VIEW OF ALL THAT HAS BEEN PRINTED regarding "the American crisis," which was mentioned particularly at so many company meetings in the rubber interest abroad, it may be worth while to remark that no failure of any company with any standing in the rubber industry in this country occurred during the period of depression, while it would appear that dividends have been maintained at the usual rates.

IT WOULD SEEM IN ORDER for the rubber shoe manufacturers to promote the settlement of Alaska—the one region of the United States where there is "rubber weather" every winter. In any event they might do more to promote the sale of rubber boots in that interesting territory, a special opportunity for studying which is afforded by the Yukon exhibition now in progress at Seattle.

AND NOW RUBBER PLANTING COMPANIES are looking to consulting chemists to aid them in producing "the best rubber possible." If things keep on at this rate it may come about that no one connected with rubber in any way need hesitate to consult a chemist for fear of its seeming a confession of ignorance of his own business.

WHILE THE AMERICAN RUBBER INDUSTRY DEPENDS very slightly upon the export trade, it is an indication of better business conditions worth noting that the volume of exports is showing an improvement.

BEFORE THE LAST ADVANCE IN CRUDE RUBBER a London broker of recognized standing asserted at a meeting of shareholders of a planting company that his firm had offers for rubber for delivery up to the end of this year at \$1.36 per pound. This doesn't prove that we may not see cheaper rubber, but at least it is a straw which shows the direction that rubber prices are taking.

IF "SYNTHETIC RUBBER" IS EVER to be developed commercially it ought to be when crude is quoted at present figures.

WE MAY EXPECT TO SEE this the banner year for the organization of rubber planting companies.

LIBEL SUITS IN THE CONGO.

THE trial of the libel action brought by certain Belgians against two American missionaries which was to come up at Leopoldville, in the Congo, on May 25, has been twice postponed, the second time to July 30. The suit is brought by representatives of the Cie. du Kasai (the Kasai Syndicate) in respect of a publication in the *Kasai Herald*, in January, 1908, charging cruelty to natives engaged in collecting rubber. The defendants are the Rev. Dr. William Morrison and the Rev. W. H. Sheppard, both from the southern United States, representing the Presbyterian church, and located at Luebo on the Kasai river. The postponements in this case are reported to have been made at the request of the United States government, but whatever may be true in this regard, doubts are expressed whether the case will ever come to trial.

A PROPOSAL TO TAX RUBBER.

A CORRESPONDENT of the London *Daily Express* suggests that, in view of the large number of British investors in rubber plantations and the amount of capital involved, the government should act in their interest to the extent of imposing a penny per pound on any rubber imported from other than British territory. His idea is that the tax suggested is very moderate for a commodity the price of which in a single year fluctuates from 2s. 9d. to 5s. per pound. In a free trade country like England it probably would take more than a letter to the able *Daily Express* to bring about a tax on imports of crude rubber, even in the name of "tariff reform."

FORESTRY IN THE PHILIPPINES.

THE report of the director of forestry of the Philippine islands for the year ending June 30, 1908, under charge of Major George P. Ahern, as director, indicates a great extension of the work of organization, with an increase in results of utility. During the year the Philippines were visited by Dr. Treub, director of agriculture and forestry in Java, at Buitenzorg, and later by an agent of the latter department, who recommended to his government the employment of several American foresters, from the Philippines, to investigate the forests of Sumatra. Captain Ahern has published a bulletin on "A Philippine Substitute for Lignum Vitæ," known locally as "mancono," and which he regards as very valuable. The collection is reported, during the year, of gutta-percha and rubber to the extent of 896 metric quintals [=197,532 pounds].

RECLAIMED RUBBER AND THE TARIFF.

EDITORIAL NOTE: The communication which follows, being unverified by any name known to the Editor, is printed for what it may be worth, by way of suggestion. It may be mentioned, however, that the conditions referred to have been changed, as will be seen from a report of a new customs decision which appeared in the June issue of this journal.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have had an interview with a large local dealer in old rubber, in regard to the article published in your issue of May 1 (page 285), under the title "Reclaimed Rubber Also Free." The said dealer made the following statement:

"The purpose of the rubber works in Russia in causing a Russian export duty to be imposed on waste rubber, was that of placing themselves in a position to compete with the American reclaimers in selling reclaimed rubber in America, inasmuch as reclaimed rubber can be exported from Russia without paying an export duty."

My informant was surprised that the American customs department is still in doubt whether this product is "crude rubber," inasmuch as Russia would not otherwise allow it to be exported

without paying an export duty. Moreover, the Russian rubber works if obliged to pay the export duty on reclaimed rubber would not be able to compete with the American producers.

The rubber reclaiming works in America must make every effort to induce their government to impose an import duty on European reclaimed rubber, as otherwise they will suffer a serious loss, while the Russian rubber works would attain their purpose.

The dealer in question further informed me that the amount of old rubber shoes collected at the present time in Russia is about 50 per cent. less than during the same season of previous years, and it therefore appears safe to presume the total supply of old rubber shoes in Russia will this year be one-half less than the average.

A CORRESPONDENT.

Moscow, May 17, 1909.

ROBERT D. EVANS ON SUCCESS.

A PROPOS of the recent mention in these pages of Mr. Robert D. Evans, of Boston, a former leading rubber manufacturer, as the landlord this summer of President Taft, it may be of interest to quote here from an interview with Mr. Evans in the Boston *Post*:

"The story of the man who succeeds is a common one," he says. "Sifting each successful man's personal experiences, it all can be told in the words: 'Hard work, application and brains.'"

"When I take a man into my business I want one to whom I can turn over a piece of work and have him with a little study understand the gist of it and what it entails. Five men out of eleven cannot do that. They will bungle the thing. What the business world needs to-day is young men of executive intelligence.

"While our colleges to-day are lacking in conditions for developing this executive ability in a man, the subject is getting more and more attention, as for instance in the course in business training that has just been established at Harvard."

"CHEMISM."

A PHYSICIAN who writes that he has been a constant reader of THE INDIA RUBBER WORLD for several years, and thus has been led to take an interest in the sources of rubber, feels that he has obtained by experimenting a material better adapted for a filler or assistant than any other substance thus far used in connection with rubber. "These efforts," he says, "have been based on the principle of obtaining materials possessing affinity for true commercial rubber that, when properly combined, yield a light and spongy product that requires less rubber in compounding than most other formulas, and when cost is considered I think it has not been equaled in the field of rubber compounds. The sources of supply are unlimited, and although this incipient industry has not passed its empirical stage, yet the writer feels confident that his efforts, with the assistance of his specialist in exploiting this interesting field, have been fully repaid by the results already accomplished."

MR. LOUIS CHARLES BERNACCHI, of England, and a director in The Inambari Para-Rubber Estates, contributed to *Travel and Exploration* (London, January, 1909) an account of "A Journey Into the Primeval Forests of Tropical Peru," which is very informing as to the natural conditions in the region where the rubber company are operating, the difficulties in the way of development, and particularly the character of the natives. He proceeded from the Pacific coast to the Inambari river, and found some rubber gathering in progress. He predicts that the region will in time become very wealthy. Mr. Bernacchi's trip was made before the rubber company ever existed.



A SHIPMENT OF CAUCHO AT ITAITUBA.

157 4

[This class of rubber abounds in Brazil, often on the same lands with *Hevea*. Itaituba is at the head of navigation on the river Tapajós. —From "Album do Estado do Pará."]

"VISTA ALEGRE," A *SERINGAL* ON THE RIVER ACRE.

[The property of Srs. Pio & Irmão. The productive capacity is 10 tons yearly. In the foreground are *pellets* of rubber awaiting shipment. —From "Album do Rio Acre," by Emilio Falcão.]

The Rubber System of the Amazon.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Several articles in your journal lately, bearing upon the conditions of supply of crude rubber, while interesting and informing on the whole, seem to call for some supplementary information which I, by reason of a familiarity with the Amazon region, feel qualified to offer.

"VALORIZATION."

First, in regard to the projected syndicates, involving the idea of "valorization" of rubber. Thus far no rubber exporting syndicate actually is operative in Brazil, but more than one has been arranged for, to take advantage of the law enacted recently by the legislative assembly at Pará and signed by Governor Montenegro just before his term of office expired. As has been mentioned in your journal [January 1, 1909—page 154], this law provides for a rebate from the export duty on rubber, when the same is shipped by the owners of *seringaes* (rubber camps)—i. e., the producers of rubber.

The basic principle of the new law is not, as THE INDIA RUBBER WORLD's readers may have inferred, to give Brazilians a monopoly in the rubber trade, but to aid the producers in financing their shipments during periods when market conditions are unfavorable. To-day the rubber producers on the Amazon must sell their output at certain seasons, without regard to the state of the market, at the prevailing quotations, whether a year's working should bring profit or loss. As you have mentioned already, the producers of rubber, by complying with the new law, may obtain from the branches of the Banco do Brazil, established recently on the Amazon, substantial advances on their "crops," thereby enabling them to hold the rubber in periods of low prices until conditions improve. This being practically a national bank, the effect of the new law is to give government aid to the rubber producers.

The law does not in so many words limit such accommodation to Brazilians, but since there is scarcely a *seringal* owner who is not a Brazilian, the effect is the same. When the new law was passed at Pará the price of rubber was exceptionally low, and it was thought to improve prices by withholding rubber from the market, with the aid of the bank advances. The sudden rise in prices, however, to the highest level on record, due wholly to influences outside of Brazil, has rendered unnecessary thus far the operation of the new law. But in case it should take effect, the owners of *seringaes*—complying with certain conditions—would be favored in two ways: (1) in being allowed to obtain advances from the bank, and (2) in being charged a lower than the regular export duty, the rebate being sufficient to more than pay the interest on the bank advances.

The Banco do Brazil is authorized to advance in the aggregate an amount reported at 32,000 contos of milreis [= \$9,732,992 with exchange at 15 pence per milreis], allowing up to 75 per cent. of the officially recognized value of the rubber at the time, after deducting 10 per cent. of the weight for shrinkage.

THE AMAZON RUBBER SYSTEM.

A mistake too prevalent abroad is that Amazon rubber is obtained by haphazard methods by ignorant denizens of the forest. But I ask, if it were not for a well-organized system, how could Pará show a certain and well sustained and annually growing export of rubber? Could the manufacturers of Europe and America look confidently to the Amazon, year after year, for the rubber they need if there were not involved in its collection an intelligent system and large capital?

True much foreign money has been sunk in efforts to exploit Brazilian rubber, but that was capital employed without intelligence or system. A *seringuciro* might fail as lamentably who suddenly essayed to operate New York's street railway system or control its police force.

I don't think THE INDIA RUBBER WORLD has ever told its readers that much of the "Pará" rubber exported from the states of Pará and Amazonas comes from privately owned lands, which are constantly being improved. Originally a man who wanted to go into the rubber business would ascend this or that stream and select a location for a *seringal* (literally a group of "seringa" trees—an early designation of the *Hevea*), after which he would send for a government surveyor, whose fees, and those for registering the land, he would have to pay. The land itself cost him nothing. But there remained the cost of improvement. The *Hevea* rubber tree is scattered through dense forests, and *estradas* (paths or roads) have to be cut, through which the *seringuciros* go from tree to tree, after trained explorers have first located the trees. There is a further outlay for shelter for the manager and the working force, for rubber collecting implements—and the inevitable "store." The better-managed *seringaes* to-day are equipped also with cattle.

The typical owner of a *seringal* is a Brazilian with pride of birth and some capital, who, in case of success for a few years, becomes an *aviador*, when he is both a producer of rubber and a merchant on a considerable scale. The next step is to retire from business and spend the remainder of his life in Paris or Lisbon. He sells out before leaving Brazil, and the *seringaes* are transferred at a good round price—not for the land, *per se*, but for improvements.

OPERATING A "SERINGAL."

The *seringal* owner does not, as a rule, hire laborers or pay wages. He has opened so many *estradas*—each with say 100 rubber trees—and plans to have so many men at work tapping trees and smoking latex. Each man's product is weighed periodically, and credited to him on the books of the *seringal* store, whence he obtains clothing, food and any luxuries in which he may indulge. The general credit is two-thirds of the prevailing market rate for rubber, i. e., 4 milreis per kilogram if rubber has been selling at 6 milreis.

When the year's product is shipped down the Amazon it goes direct to the *aviador* (consignee) at Manãos or Pará who has "provisioned" the *seringal*, and usually is sold at once, at the prevailing price. It may be that the *seringal* comes out ahead, or that it remains in debt to the *aviador*. But the rubber workers have already been paid—not in money, but in book credits. If any have been thrifty there may be something due them at the end of the year, but as a rule, the workers are seldom out of debt, and one may not leave any *seringal* on the books of which there is a charge against him.

The *aviador*, by the way, is the merchant from whom the rubber importer of Liverpool or New York buys supplies for his customers. No American or European rubber importer has any capital invested "upriver."

The profit of the *seringal* comes from the store. The rubber gatherer is credited with two-thirds of the selling price of his product; the other third does not more than pay expenses of management and shipping charges. But the store! I have heard it stated that—

An importer of European goods at Pará charges a profit of 50 per cent. to the *aviador*;

The *aviador* charges the *seringal* owner 50 per cent;

The *seringal* owner charges 100 per cent.



SAN ANTONIO—HEAD OF STEAM NAVIGATION ON THE RIVER MADEIRA, BRAZIL.

[Here the steamers take on the Bolivian rubber floated over the falls of the Madeira. The Madeira-Mamore railway now being constructed is designed to convey such freight around the falls to San Antonio.]

In good years fortunes are made under this system, but the risk involved is so great as to justify locally the scale of profits quoted. But even in the worst years rubber continues to come down the Amazon, and every year sees its procession of retired rubber traders going to Europe. But the *seringueiro* remains on the ground, caring not for Europe, or what rubber is used for, but content only with the supplying of his small daily wants, with no idea that he will ever be free from debt to his partner—the man who runs the *seringal*. For, as I have said, the *seringueiro* is not a hired laborer. He gathers rubber in *estradas* owned by a capitalist and is paid with merchandise from the capitalist's store. In times of high prices the laborer may become extravagant; when prices drop his credit at the store is limited.

It is not to be wondered at that in many cases a *seringal* becomes the property of an *aviador* who has provisioned it. In

fact, perhaps most of the better rubber properties are now thus owned. In the event of the new syndicate law becoming effective, the *aviadores* of Pará might enter the list of exporters, since they are "owners" of rubber properties within the meaning of the law. These merchants own not only all the *seringaes* on certain rivers, in addition to stores in the principal towns, but also steamers and launches which, if assembled, would make a formidable fleet. This new régime means a gradual consolidation of rubber properties, the effect of which will be accentuated in time by the existence of the new banking facilities already mentioned.

RUBBER IN THE FAR EAST.

And now about the competition of Ceylon and the Malay States as producers of rubber of a type produced in the past



A SERINGAL ON THE RIVER JURUA, IN BRAZIL.

[The buildings are mounted upon posts high enough to protect their occupants in the season of the overflow of the river.]

only in the Amazon region. To my mind the British investor in rubber labors under a great mistake in regard to Brazil, not unnatural in view of the failure of London companies organized to exploit forest rubber. But the managers sent out from London have attempted to control the business on London ideas, without recognizing the possibility of learning from the Brazilian. In Ceylon the Britisher is at home, and his rule is supreme; he has no competitor there; he produces rubber and sells it at a profit. The wish being father to the thought, he indulges in visions of the ignorant Brazilian native, with his lack of system, gradually being forced out of the business of producing rubber, after which the Far East will have a monopoly. "We can grow rubber at a shilling or less a pound in Ceylon," they say; "can you beat that in Brazil?"

No man to-day knows the cost of a pound of rubber in the Amazon country, either on one *seringal* or in general. In a land where no money circulates this man or that taps so many trees, cures his rubber, and gets from the *seringal* store enough to eat, some clothes and tobacco. The cost of rubber does not interest him; its selling price is nothing. So with the proprietors: the world needs rubber, and in a few years trading in it brings him a fortune.



DR. JOAO COELHO.

[Inaugurated Governor of Pará February 2, 1909.]

But suppose rubber prices should drop in half—something of which at present there is absolutely no indication. On the thousands of carefully laid out *seringaes* of the Amazon are millions and millions of mature and productive trees, yielding rubber which has never been wholly equalled elsewhere in the world. They are owned by people who have capital, and are skilled in business and adaptable to circumstances. While temporarily lower prices may disturb business conditions, a permanently lower level would mean simply that the *seringueiros*, still in goods, would be credited with, say, 2 milreis instead of 4 milreis per kilogram on the books of the *seringal*; they might become less extravagant, and the proprietor might lessen his rate of profit on the goods dispensed; but so long as the trees are here and the rubber workers on the ground, there will be capital available whereby the natives will be able to sustain life by their labor, the capitalists will profit, and the government will derive revenue from the business. The consolidation of the business of *aviador* and *seringal* owner is a step toward the possible new condition.

Another point is that the ability now of rubber producers to store their product when prices are unfavorable, thus rendering the market more stable, will lessen the risks involved in rubber trading, and the necessity for "long" profit on goods. But more

than this: With such returns as have been obtainable from rubber in the past, little thought has been given to other production. Why trifle with growing food when it can be imported, with the world eager to throw money at Brazil for rubber? All hands, then, to collecting rubber, and when the rivers rise and stop rubber work they can live from the store supplies until next crop season. Already, however, on the better *seringaes* cattle have been introduced for the supply of meat and crops are being cultivated to take the place, in part, of imported food.

I have not figured out here the cost of a pound of forest "Pará" rubber; the difficulty of doing this is, I think, plain. But the reader who has entertained any idea of the disappearance of rubber gathering from the Amazon country may find in my article reason for less confidence on this score.

GUSTAV HEINSOHN.

Pará, May 19, 1909.

PICTURES FROM THE RUBBER COUNTRY.

ALBUM DO RIO ACRE. EMILIO FALCAO, EDITOR E PROPRIETARIO, Pará, Brazil. 1906-07. [Lisboa: Typ. "Annuario Commercial."] [Cloth. 13" x 10". 127 full page photographures, on separate leaves.]

ALBUM DO ESTADO PARA. MANDADO ORGANISAR POR S. Ex. o Snr. Dr. Augusto Montenegro, Governador do Estado. Oito annos do Governo (1901 a 1909). Paris: Chaponet. [1909.] [Cloth. Large 4to. Pp. 350.]

THE remarks by our contributor this month on the extent to which the rubber trade in the Amazon regions has been reduced to system are supported by the two publications of which the titles are given here. It still is customary to speak of the rubber areas there as "remote" and difficult of access, and to an extent they are. But it does not follow that they are outside of civilization. The Acre district—formerly Bolivian and now owned by Brazil—has been regarded as particularly wild. It does lie further from New York or London than almost any other *Hevea* rubber territory, and it has been developed at all only in recent years, and these facts render the more notable the "Album do Rio Acre."

Here we have a sumptuous volume illustrating the resources of the Acre, with the aid of a great number of photographs on a large scale. One *seringal* after another is shown—nearly a hundred altogether—in pictures nearly as large as this page, not to mention river views in general, steamers, cattle farms, villages and the like. True, there is not much to show in a picture of a rubber camp; little money is devoted there to architectural effect or to decoration of any kind. Still it is informing to see views of rubber "farms," which have a definite place on the map, together with names of their proprietors and details of their output. The presence of cattle and goods warehouses points further to the profitable nature of the business carried on. One of these views, by the way, is that of a *seringal* far up the Acre, whence came a large "ball" of rubber mentioned lately in THE INDIA RUBBER WORLD as having been put on exhibition in a store window on Broadway. In that report even the names of the workers who prepared the rubber could be given. With such an "Album" at hand the most remote rubber fields seem comparatively near.

* * *

THE "Album do Estado do Para" is an even more superb publication. It is more comprehensive, too, being in a measure a review of the eight years of administration of Dr. Montenegro, whose service as governor of the State ended in February last. It is a summary of conditions in the State and city of Pará, indicating the progress made during eight years. Besides views of public and private buildings and portraits of eminent citizens, there are several hundred illustrations designed to inform the reader in regard to rubber gathering, grazing, and the agricultural interests of the State. Many *seringals* are thus pictured, an opportunity never being overlooked to put the cattle well to the foreground, thus indicating a disposition on the part of the proprietors to diversify their interests.

The work on Pará embraces historical summaries, the state

constitution, the land laws, an account of the natural resources, and commercial statistics. In fact, it would seem to omit no class of information which either a citizen or an outsider might desire in relation to the state or the city. And since rubber figures so largely in the life of the people there, this is really a book on rubber and its sources and the conditions of its supply. The text of this work is printed in Portuguese (the language of the country), French and English. The work as a whole is of the highest type of book making in France.

DEATH OF BRAZIL'S PRESIDENT.

THE president of Brazil, Dr. Affonso Augusto Moreira Penna, died at Rio de Janeiro on June 14, in his sixty-second year. He assumed the presidency, for a term of four years, November 15, 1906. He was born in the state of Minas Gerales, received a liberal education, became governor of his state, and later held a portfolio in the imperial ministry. He was one of Dom Pedro's cabinet who accepted and supported the republic after the proclamation. He was vice-president of the republic at the time of his election to its highest office. President Penna contributed largely to the improvement of the national finances. He was favorable to the increase of trade between his country and the United States. His term will be filled out by the vice-president, Dr. Nilo Pecanha.

President Penna's last public paper was his message to the national congress, presented on May 3. It was a record of material progress during the year and of improved relations with foreign powers. He expressed satisfaction at the operation of the new system, inaugurated under him, of maintaining a fixed rate of exchange. This has resulted in great benefits throughout the republic, and likewise has been of benefit to traders in Brazilian rubber in whatever market. Speaking of Rio the president said: "It is a fact, happily beyond dispute, that yellow fever has no longer an epidemic character in our midst." The same can be said of most other Brazilian ports now, and this is almost as useful a conquest as that achieved over the instability of the exchange.

APROPOS OF CHICLE.

THE International Gum Co., was incorporated May 25, 1909, under the laws of Maine, with \$500,000 capital, authorized to engage in the chewing gum trade. Francis Baumer, of No. 35 East Twenty-eighth street, New York, is president and treasurer. The other directors are Robert S. Muller, Marcel Mulet, Ethel P. Mulet and Dwight Patterson, all of New York.

The Federal Chewing Gum Co. (Brooklyn) and the Bon Bon Co. (New York), manufacturers of chewing gum, have been granted by the government an allowance of drawback on gum made by them with the use of imported chicle and cane sugar. The allowance shall not exceed 10.3 per cent. of the net weight of the exported product for the chicle and 67.56 per cent. of such weight for the refined sugar.

Mexican exports of gum chicle for two fiscal years (ending June 30), according to official returns, were as follows:

	1907-08.	1908-09.
To Germany.....pounds	689	2,130
To United States	4,009,984	4,436,329
To France	88	99
To Great Britain	2,548	41,263
To British Honduras	752,006	569,681
Total	4,765,315	5,049,502

CHARLES R. FLINT IN CHICLE AGAIN.

THE organization is reported of a new combination in the chewing gum trade, on the lines of the American Chicle Co. The idea is to consolidate in the Sen-Sen Chiclets Co. five important independent concerns, with a capital of \$6,700,000,

consisting of \$2,700,000 in bonds and \$4,000,000 in stock. The companies named are *T. B. Dunn & Co.*, Rochester, New York; *Frank H. Fleeer & Co., Inc.*, Philadelphia; *Somerville & Co.*, London, Canada; *Curtis & Son*, Portland, Me., and *The Grove Co.*, Salem, Ohio. T. B. Dunn, head of the first-named company and treasurer of New York state, and Frank H. Fleeer, also named above, have consented to act as respectively president and chairman of the board of the new company. The Dunn company makes the "Sen Sen" chewing gum and the Fleeer company the product called "chiclets." The promotion of the company is in the hands of Flint & Co., No. 25 Broad street, New York, which includes Charles R. Flint, who, it will be remembered, promoted the American Chicle Co. in 1899.

The new company is to be incorporated under the laws of Maine. It is stated that shareholders and directors of the American Chicle Co. have subscribed liberally to the underwriting of the new company. The earnings for five years of the five companies to be merged are stated to have averaged nearly \$425,000 annually. American Chicle dividends are now 6 per cent. on the preferred and at the rate of 18 per cent. on the common.

REVOLVING PORTABLE ELEVATOR.

THE illustration here relates to an apparatus which has been designed to fill the need for a simple, strong, easily handled, portable elevator. With little labor and in little time, and with no danger of breakage, this elevator lifts merchandise weighing up to 1,200 pounds, raising it to any required height up to 10 feet. Every bit of space may be



REVOLVING PORTABLE ELEVATOR.

used from floor to ceiling, which is not the case where step ladders, planks, and the like must be used in putting goods in place. This elevator is built entirely of steel and iron. The platform revolves on a ball-bearing base and therefore can be swung around with ease at any point when loaded or unloaded. It is easily operated by one man. The platform is equipped with rollers. The elevator may be easily wheeled through narrow aisles, in which it can be turned like a truck. It can be operated in a 4-foot aisle and loaded and unloaded from front, back or either side. It requires but one

man to raise a package 1,200 pounds in weight, 10 feet up, showing a great saving in labor. The illustration shows the machine being used to tier 700-pound bales in a dry goods warehouse in New York. [New York Revolving Portable Elevator Co., Jersey City, New Jersey.]

LEATHER AND RUBBER HEELS.

A NEW way of applying rubber to heels was seen recently on women's shoes. The plan is to have the heel half rubber and half leather, but to have both rubber and leather come next to the ground or to the point of wear.

The top-lift is thus divided. Most of the heels made this way have the rubber on the outside of heel. As a rule the rubber is built a trifle higher than the leather, and the effect is to throw the weight over to the inside of the shoe and cause the whole heel to wear squarely.

The Deresination of India-Rubber—III.

By H. O. Chute.

UTILIZATION OF EXTRACTED RESINS.

IN any system of deresinating rubber on a large scale there will be a certain quantity of by-product in the shape of extracted resin, according to the quality of the material treated, and the question of the utilization of the resin appears to be well worth study.

PONTIANAK RESIN.

In the case of Pontianak gum ("gutta-jelutong"), the weight of the resin extracted amounts on an average to about three times the amount of merchantable rubber produced, and the possibility of selling the resin at any price approaching that to be obtained from the rubber would be of great interest, but at present there seems to be little hope for this. In fact, the outlook for utilization of these resins at any price which will materially lower the cost of producing deresinated rubber is almost blank. The resin extracted from Pontianak resembles in many ways the ordinary rosin or colophony rosin, though it differs in several other respects. As extracted from the solvent it usually occurs as a white mass with small grains tending to powder but not of crystalline structure, and it melts above the boiling point of water, and when thoroughly melted and cooled it forms a hard, dark vitreous mass, much resembling the ordinary rosin of lower grades. It differs from rosin, however, in two important particulars: First, it does not unite with alkalies to form soap, and, second, on distillation, it does not yield oils which have the valuable property of hardening with lime. These two defects prevent its use for soapmaking and resin oil distillation, which are the two industries in which the most rosin is consumed.

Rosin is largely used in cheap varnishes, and Pontianak resin has been tried for this purpose, but has the one defect of rosin, in that it cracks under changes of temperature and is also slightly tacky.

Probably the principal efforts towards using Pontianak resin have been made with a view to substituting it for chicle in the chewing gum industry. In the June issue of THE INDIA RUBBER WORLD (page 31) was an article showing how chicle, which is the basis of chewing gum, has steadily risen in consumption until, at the present time, after washing and cleaning the chicle and allowing for shrinkage, it costs the manufacturer about 65 cents per pound when ready for use. Any substitute for this costly material would be gladly welcomed, but Pontianak resin has several disadvantages. As the resin is produced it is contaminated with crude petroleum oil, which seems present in all Pontianak rubber placed on the market, and the odor of crude oil is most persistent and unpleasant. Another objection is that there are usually to be found in the resin small pieces of rubber which appear as black specks, and also grains of sand. The rubber particles cause the resin to darken when melted, and these have also been objected to by makers of sealing wax who have used the resin, as the odor of burning rubber is not pleasant to users of the wax. Probably these impurities can be eliminated by chemical treatment, but at considerable cost.

Notwithstanding these difficulties Pontianak resin has been used with some success, as one producer claims to have sold 400 tons to a single varnish company, and carloads to several others, and the companies who have used it assert that after a year's test they find the varnishes with the resin in them in better condition than those without.

The following data relating to Pontianak resin are fur-

nished by one of the large producers to those in the trade who are likely to consume the product:

Solubility.—Soluble in 3½ parts of naphtha and in turpentine, linseed oil, and similar solvents about the same. Soluble in boiling alcohol and crystallizes out on cooling.

Melting Point.—About 220 deg. F.

Moisture and light boiling oils (residual naphtha) can be eliminated by heating to 400 deg. F. till froth disappears.

Hardening.—Will not saponify, so that the lime method will not work.

Mixing With Other Gums.—Can be mixed with other varnish gums, waxes, or paraffine in any proportion and dissolves the gelatinous product formed by overheating Chinese wood oil, and with linseed oil gives flexibility and toughness to coating.

Solutions.—All solutions give some residue on ageing, leaving solutions bright and clear. A straight resin varnish has a slight tackiness but coatings softened with linseed oil are free from this feature, and the coatings are inert to chemical action and stand exposure to the weather. It is non-porous and therefore waterproof and materially improves weathering qualities of paint and varnish and it has a body which gives great covering power.

Overheating.—At temperatures of 500 deg. F. and over the resin begins to decompose with formation of acetic acid, but below this temperature it is neutral.

Color of Solutions.—It is very light in color in solution and is further lightened (while liquid) by sunlight, but long overheating darkens the resin.

The above data would indicate that Pontianak resin would find some use as an ingredient in paints and varnish, but it is to be remembered that rosin has most of the qualities enumerated above and that at present prices a grade corresponding in value can be obtained for 1¼ cents per pound. At this price, assuming that 10 pounds of raw Pontianak would give one pound of rubber and 3 pounds of resin the value of the resin would be 3¾ cents for each 10 pounds or, say, ½ cent per pound on the raw gum, which is not very much on a product worth 5 cents.

GUAYULE RESIN.

With regard to the resin from guayule rubber the case seems even less promising, so far as getting any price for the resins which will materially add to the profits of the operation of deresination, for only one pound of resin is produced for 3 pounds of crude rubber treated.

The resin is altogether different from that of Pontianak gum, being black, or at least quite dark, and liquid or tarry at ordinary temperatures and of exceeding stickiness, but it hardens or vulcanizes with sulphur, while the resin of Pontianak seems unaffected by sulphur at the ordinary vulcanizing temperature. The data given below are derived from the same sources as what has been quoted in regard to Pontianak resin:

Solubility.—Guayule resin is readily soluble in all the solvents of the Pontianak product and slightly soluble in alcohol. But all the solvents leave a finely divided residue of wood fiber which will settle on standing.

Qualities.—Its chief characteristic in mixtures is to increase flexibility and elasticity.

Saponification.—It will readily saponify and can be used as a substitute for or to dilute saponifiable oils, such as castor oil. Its soaps of lime, aluminum, sodium, lead, etc., are of interest but have not yet been investigated.

The above summary of the qualities of guayule resin seem to indicate that perhaps its property of saponifying should be further investigated and may lead to useful applications and should be further investigated.

Its exceeding stickiness would indicate that perhaps it would be of value in flypapers, belt dressings and the like, and it will stand exposure to the atmosphere for a remarkably long time without showing any signs of hardening.

At present there cannot be said to be any fixed quotation

for either of these resins. Within a year Pontianak resin has been offered in the crude wet state as low as \$15 per ton, but the dried is usually quoted at 3 cents per pound in bags, although the purified and deodorized article suitable for chewing gum is held as high as 28 cents per pound. Guayule resin is quoted at 2 cents per pound.

While the above record is mostly one of failure in the utilization of resins derived from rubber, it is of value as showing what has heretofore been done along this line, and

others need not waste effort on the same lines. It must be remembered, however, that the reason for the deresination of rubber is that the characteristics of the resins are undesirable by rubber manufacturers, and it is not surprising that they should be found undesirable in other industries. Everything has its place, but the place for the resin is not in the rubber, and the principal object of deresination is to improve the rubber.

New York, June 18, 1908.

The Editor's Book Table.

THE MANUFACTURE OF RUBBER GOODS. A PRACTICAL HANDBOOK for the Use of Manufacturers, Chemists, and Others. By Adolph Heil and Dr. W. Esch. English Edition by Edward W. Lewis, A. C. G. I., F. C. S. - - - London: Charles Griffin & Co., Limited, Philadelphia: J. B. Lippincott Co. 1909. [Cloth, 8vo. Pp. VIII + 237. Price, \$3.50.]

MANUEL PRATIQUE DE LA FABRICATION DU CAOUTCHOUC et des Produits qui en Dérivent. Par Ad. Heil et Dr. W. Esch. Traduit de l'Allemand par E. Ackermann. Paris: Ch. Béranger. 1909. [Paper. 8vo. Pp. 283. Price 12.50 francs.]

THE general scope of this work was treated in a review of the original edition, in German. [See THE INDIA RUBBER WORLD, July 1, 1907—page 307.] The preface to the English edition, just now brought out, states that the late Dr. C. O. Weber had promised a companion book—in the shape of a comprehensive treatise on the manufacture of rubber goods—to his standard work, "The Chemistry of India-Rubber," but this was prevented by his lamented death. Later, when the German book "Handbuch der Gummiwarenfabrikation," by Drs. Heil and Esch appeared, the publishers of Dr. Weber's book realized the utility of an English edition, which has been prepared by the chemist of a long-established rubber factory in London. The work embodies a concise account of the sources of the raw material and of its treatment through the various stages of preparation in the factory, and the manufacture of the leading kinds of goods. The text is supplemented by upward of 100 illustrations. So far as machinery is concerned the types illustrated are mainly German, but the editor has so modified the original work as to adapt the text to the factory equipment and processes more generally in use in Great Britain and America.

Regarding the compounds ("Die Mischungen") the authors say: "No claim is made that these mixings are possessed of any general importance, as they can of course be modified in a great variety of ways." In the review in these pages of the original edition it was said: "The importance of proper compounds is nowhere lost sight of, and nearly a hundred typical mixtures are given in the book. Of course a book of compounds alone will not make a rubber factory superintendent any more than a 'cook book' will make a chef; still, before making up rubber goods one must know what to put into them, and an idea of what proportions have proved successful in practice is helpful."

It may be worth while to consider to whom a book of this class may be of interest or value. The rubber manufacturer who possesses a practical knowledge of the industry or the experienced factory superintendent or chemist may not require such a work as a guide in his work, but we take it that there is no one who is so expert in the industry as to be unable to learn something from the result of the studies of such practical men as the authors of this work. Such a book also may be of interest to a man who is interested actually in one branch of the rubber industry, and who may wish to improve his knowledge of other branches. Likewise it may be commended to the beginner in the industry who may be interested in looking beyond the routine tasks set before him, in the desire to know more of what the rubber manufacture embraces than he is able to see in his daily work.

One indication of the esteem in which this book is held is the

fact that it has appeared in a French edition, the title of which is stated above.

ZIELE, RESULTATE UND ZUKUNFT DER INDISCHEN FORSTWIRTSCHAFT. Inaugural-Dissertation zur Erlangung der Doktorwürde einer Höheren Staatswissenschaftlichen Fakultät der Eberhard-Karls-Universität zu Tübingen. Vorgelegt von A. H. Berkhout aus Wageningen (Holland). Tübingen: G. Schnurien. 1909. [Paper. 8vo. Pp. v+190.]

THIS thesis, for a doctor's degree from the university of Tübingen, Germany, on the aims, results and future of forest economy in India, is by Mr. A. H. Berkhout, late conservator of forests in Java, in which position he studied the principal india-rubber and gutta-percha species. In the work before us no less than 33 pages are devoted to the culture of these species, principally in the Far East.

FROM A REVIEW BY E. DE WILDEMAN.

"In his conclusion Professor Berkhout states that it will be necessary for the head forester to receive his education in Europe and, after having acquired a broad general knowledge of his science, he should commence to practice his difficult profession in the tropics and that he should attempt to carry out its application along new paths. As our author states, those governments which are at the head of colonial forests have an interest in sending out well-instructed foresters, for it will only be by doing so in a methodical manner that it will be possible to make the forests regularly productive. Professor Berkhout considers, and justly so, that the science of colonial forestry will from day to day play an important role in the national economy of all civilized countries. Dr. Berkhout's book contains, as might be judged, considerations and very general information which all colonial governments might make use of; the well-known ability of the Wageningen professor lends particular weight to his observations."

DIE NUTZPFLANZEN UNSERER KOLONIEN UND IHRE WIRTSCHAFTLICHE BEDEUTUNG für das Mutterland. Von D. Westermann. - - - Berlin: Dietrich Reimer (Ernest Vohsen). 1909. [Cloth. 8vo. Pp. 94 + 36, colored plates. Price, 5 marks.]

NOWHERE is the development of colonial resources carried on with greater system and more energetically than in the dependencies of Germany in Africa. This compact, but at the same time very complete, work on the useful plants in those colonies, and their economic importance to the mother country, devotes not a little space to rubber yielding species, from which the various colonial administrators evidently hope for large ultimate returns. The rubber plants described in this volume include *Kickxia elastica*, *Manihot Glaziovii*, *Ficus elastica*, *Hevea Brasiliensis* and *Palaquium gutta*—of all of which illustrations are given colored to nature—and several others. The list of species treated, however, is limited chiefly to those which have been placed under cultivation in the German colonies.

IN CURRENT PERIODICALS.

Zur Kenntnis des Milchsafftes von *Kickxia Africana*. By Dr. E. Fickenday.—*Der Tropenpflanzer*, Berlin. XIII = 5 (May, '09). Pp. 203-208.

Le *Citandra orientalis* dans la Guinée Française. Coagulation de son latex. By Aug. Chevalier, = *Journal d'Agriculture Tropicale*, Paris. IX-95 (May 31, '09). Pp. 129-131.

L'Origine Botanique du Caoutchouc de Nouvelle-Calédonie. By M. Du-bard. = *Journal d'Agriculture Tropicale*, Paris. IX-95 July 31, '09). Pp. 135-137.

Rubber of *Sapium Jenmani* from British Guiana. [Description and analysis.] = *Bulletin of the Imperial Institute*, London. VII-1 (1909). Pp. 1-7.

Progress of Rubber Planting.

LANADRON ESTATES RESULTS.

THE proceedings at the first annual meeting of Lanadron Rubber Estates, Limited (London, May 28), were of real interest from whatever standpoint considered. The Lanadron company has been organized by the Messrs. Pears, of soap fame, to work the rubber estates started by them in the Malayan state of Johore, where they had already become cultivators on a large scale of cocoanuts as a source of soap material. This rubber plantation has become widely known by reason of the marketing of its product, largely in "block" form. The company's output of rubber during 1908—the period covered by its first report—was 181,156 pounds, against 97,203 pounds from the same estates the year before. The cost of the rubber sold is estimated at 1s. 3d. [=30 cents] per pound, which figure is expected to be considerably reduced as the output increases. The average price realized was 4s. 6¼d. [= \$1.10] after deducting freight, landing and sale charges. The expenses of the company include the upkeep of rubber not yet produced. The net profit, derived entirely from the sale of rubber, was £25,621 2s. 11d. [= \$124,685.41], out of which was paid a dividend of 10 per cent. on £234,032 10s. capital. It was stated at the meeting that 10 per cent. could have been paid had the rubber realized only 3s. 11¼d. [=96 cents]. A director said: "When you bear in mind that the results in the accounts before you have been obtained from trees which on December 31 last only averaged 7½ years, and that we are only tapping one-eighth of our planted area, I think you will agree that there are great possibilities in front of us." It may be of interest to note that the rubber output last year was obtained from 567½ acres, or an average of 319 pounds per acre. The net profit reported works out at \$219.90 gold, per acre. The chairman of the company called attention at the meeting to the valuable assistance of their consulting chemists in their endeavor to produce the very best rubber possible. The management of the company have decided to confine their tapping of *Hevea* rubber in future to trees which have attained a girth of 24 inches at 3 feet from the ground.

The proceedings at the Lanadron meeting included some remarks by a well-known London broker of such interest, in connection with plantation rubber, as to justify their being quoted here in full.

A LONDON RUBBER BROKER'S VIEWS.

Mr. Andrew Devitt (of Messrs. Lewis & Peat): "Before the resolution is put I would like to make one remark upon the quality of the Lanadron rubber. We have had the privilege of being the brokers to the company for selling the rubber from the commencement. Mr. Pears has, by his skill and cleverness, brought this rubber and kept it up at the top of the tree. There is no rubber like it sold, although attempts have been made by very clever people, both in Ceylon and the Straits, to come up to the Lanadron block, but so far without success. When the price of fine Pará was about 5s. 4d. to 5s. 5d. we sold this Lanadron rubber for the company at 5s. 9d. To-day's value is 5s. 10d. [= \$1.41.9], as near as possible, and fine Pará has risen to 5s. 7d.

"The point is this, that so far as we can see—and we do a good deal of business in rubber, both fine Pará and other sorts—there is very little chance of seeing rubber prices lower, at all events for this year. Consumers and manufacturers all over this country, the Continent and America, are clamoring now for plantation rubber who some little time ago were afraid to touch it, were suspicious of it, and made all sorts of difficulties which they were afraid of. All those fears have been dispersed and dispelled, and now we can sell Lanadron block without it being

seen, for three and six months ahead, and on its character. I think it is a proud proposition for the Lanadron company to be the pioneers who have outstripped all other rubber companies, and to produce an article which, at the present time, is the best quality and commands the highest price of any plantation rubber that comes here.

"With regard to the prospects of prices continuing or being likely to go back, I may tell you that we have to-day had orders for plantation rubber for delivery or shipment from the East up to the end of this year, which is seven months, at 5s. 7d. [= \$1.35.8] per pound. That will show you what manufacturers, consumers and dealers think of the prospects of rubber, or else they would not be willing and eager to make contracts for six months ahead at such a price as that. Pará rubber is in a peculiar position, and holds good prospects for those interested in plantation rubber; but they must not be disappointed if they see the price—I do not say of Lanadron block—if they see the average price of plantation rubber below that of fine hard Pará. It is not because fine hard Pará is better, because we all know that plantation rubber is far superior; but at the present time manufacturers have not been able to adapt their machinery, their mixing or their dressing to take plantation rubber for certain purposes; so that they must have fine Pará.

"Although the crop of fine Pará is a fair one—there are 40,000 tons from the Amazon this year—there is not enough to go round, and therefore the price of fine Pará is steadily creeping up. We have done business to-day at 5s. 7d. per pound before I came to this meeting. Only once during the past three or four years has that price been reached or passed, although it did touch 3s. 8d.; but it looks very much more like going to a record price than down. I must add a word of praise at the magnificent way in which the work on the estates in the planting, preparation and tapping of rubber has been carried out."



PLANTATION "FLORIDA," CHIAPAS, MEXICO.

[Property of Wisconsin Rubber Co., Madison, Wisconsin. Five gallon tins used for collecting latex, which is strained before coagulation.]

THE VARIETIES OF "CASTILLOA."

HENRY PITTIER, connected now with the United States department of agriculture, writes in *La Chronique Coloniale*, of Brussels:

"One fact which the interested public persists in ignoring and which, however, has been scientifically proved, is the large number of *Castilloa* species—a number which considered from the standpoint of cultivation is not without some importance. Up to the present time one species of *Castilloa* producing caoutchouc has been recognized generally, viz., the *C. elastica*, and one other which produces resinous latex which coagulates into a brittle substance, slightly or not at all elastic, the *C. tunu*.

"But, in fact, two very distinct types have been confounded under the name of *Castilloa elastica*, one growing in the semi-arid districts of Central America and the other flourishing in the periodically rainy zones. The first type includes one or perhaps two species, the *Castilloa lactiflua* and *C. nicoyana* of Cook, the second having at least four species: the *C. elastica*, of Mexico; the *C. Costricana* on the Atlantic coast of Nicaragua, Costa Rica and Panama; *C. carinata* of western Colombia, and *C. Ulei* of Brazil and Peru. The choice among these species is far from being an indifferent matter when their cultivation for industrial purposes is considered and which should be governed by climatic conditions of each locality. It is probably a fact that an ignorance of this detail has been the cause of so little success in certain attempts made in the Indies and in other colonies, and future experiments will certainly be more encouraging if this detail is taken into account."

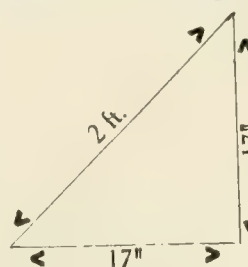
RUBBER PLANTATION ACCESSORIES.

THERE always will be small and medium sized rubber plantations on which it may not pay to put up large coagulating plants. For their use has been assembled on this page illustrations of utensils that have become recognized as desirable parts of a planting outfit, though some of them may prove desirable on even the largest rubber estates. As a rule, the cups and spouts are made of heavy tin; the dippers, bowls and pans of steel enameled with porcelain, and the sieves are made of heavy tin

with brass wire strainers. Those shown in our illustrations are made by Walker Sons & Co., Colombo, Ceylon.

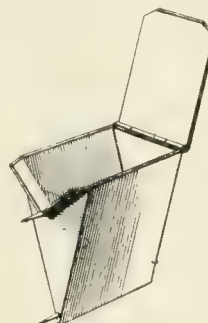
SYSTEM OF TAPPING RUBBER TREES.

AN accompanying diagram relates to a system in which the grooves to be cut in the rubber tree are first worked out, with the distances and angles correct. The guide by which this is effected is a right-angled triangular piece of tin, with two sides about 17 inches each and the third 2 feet. The grooves to be cut along the sloping side of the triangle will then be at an angle of 45 degrees to the base, each groove 2 feet long and at intervals of one foot, starting from the base of the tree, up to a height of 5 feet, and all leading into a vertical channel running down to within a few inches of the ground level, a small tin spout being inserted at the lower end of this vertical channel to convey the latex into the tin vessels which are placed on the ground near the tree.



A NEW LATEX CUP.

A NEW type of latex cup that has many points in its favor, if it is not too costly, is shown in the accompanying illustration. The method of fastening to the tree and the cover are particularly good, and it should find many friends among the planters. United States patent No. 919,098 has been granted for this invention to James Webster, of Victorville, California.



LATEX CUP.

RUBBER PLANTING NOTES.

At a special meeting of stockholders of Manchester North Borneo Rubber, Limited (Manchester, May 21), it was voted to increase the capital from £65,000 to £100,000, to provide for increasing the companies' area under rubber. The company is planting tobacco largely as a temporary crop.

Rubber Estates of Johore, Limited, began planting in March, 1907, and at the last annual meeting (London, May 4), it was reported that over 3,300 acres had been placed under rubber. The oldest rubber had cost to date about £14 10s. [= \$70.56] per acre.

Kautschuk-Plantage Mombo, G. m. b. H., has been registered at Arnstadt, Germany, with a capital of 510,000 marks [= \$121,380], to plant rubber at Mombo, in the Wilhelmstal district, German East Africa. It is formed to develop a plantation already started by Robert Trautmann, of Arnstadt, and Gustav Weisflog, of Erfurt, Germany, who are the organizers of the new company.

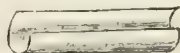
Mr. H. A. Wickham, who will be remembered in connection with the original introduction of the cultivation of *Hevea* rubber into the Far East, is still active in



Collecting Cup.



Latex Dipper.



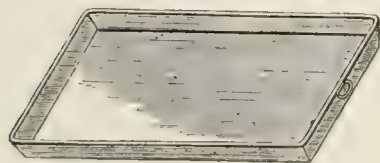
Tin Spout.



Latex Measure.



Latex Bowl.



Oblong Coagulating Pan, for Sheet Rubber.



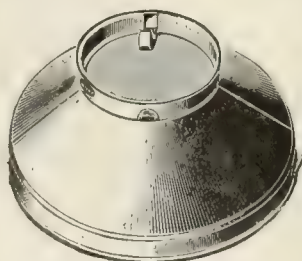
Drip Tin (Small).



Latex Kettle.



Collecting Cup.



Round Coagulating Pan for Biscuits.

RUBBER PLANTATION ACCESSORIES.

[“Para” Seamless Latex Strainer in the Center.]

connection with rubber interests, as indicated by his share in the organization of Mombiri Rubber Plantations, Limited, with £52,000 capital registered in London, April 20, 1909. The object is to acquire the benefit of a lease granted to Mr. Wickham of an estate in Collingwood Bay, East coast of Papua (New Guinea), to adopt agreements with Mr. Wickham, and to carry on the business of rubber culture. One of the signatories is Mr. Wickham, whose address now is 9 James street, Westbourne terrace, W., London.

DISTANCE IN RUBBER PLANTING.

THE Tehuantepec Rubber Culture Co. (New York) established their plantation "Rubio," in Mexico, on the plan of setting their rubber 6x6 feet at the beginning, with the idea of thinning the trees later. They issue under date of May 1 a report on experimental thinning, giving dimensions of trees under varying conditions. The report says: "It will be observed that the difference in growth as between plantings at 6x6, 9x9, 6x12, 12x12 and 18x18 is so small as to show no decided advantage in favor of any particular distance between trees, indicating that no general cutting out at this time is advisable." Any further original planting, however, will be done at various distances apart greater than 6x6 feet.

RUBBER YIELDS IN MEXICO.

THE Meriden Rubber Corporation shipped recently from their plantation in Vera Cruz, Mexico, a lot of *Castilloa* plantation rubber, which weighed 568 pounds in New York. The sheet rubber sold at \$1 a pound; 25 pounds mixed with scrap brought 97 cents a pound. Neighboring planters shipped 1,782 pounds with the same consignment.

A report on the estate in Mexico of The Tolosa Rubber Co. (Boston), made by W. L. Wadleigh, general manager, states that the tapping of 160 planted *Castilloa* trees aged 6 years and 8 months, and measuring 20 inches or more in girth, yielded 20¼ pounds of dry rubber, or an average of 2 ounces per tree for one tapping. He recommends the tapping, toward the end of this year, of all their trees of this size.

AMERICAN ENTERPRISE IN BORNEO.

This paragraph appears in *De Indische Mercuur*, of Amsterdam: "According to information received by the *Java Bode* (Java "Messenger"), an American syndicate is to be organized for the purpose of cultivating caoutchouc on a large scale in the eastern and southern portions of Borneo. Preliminary investigations, such as are necessary in the selection of forest lands best suited, have already been commenced."

RUBBER PLANTING NOTES.

As indicating the rapidity with which rubber estates are reaching the tapping stage, the *Malay Mail* recently mentioned that at that time no latex cups were to be had in Kuala Lumpur, Singapore or Penang. One Kuala Lumpur firm had sold 400,000 cups within a few months.

The Malacca Rubber Plantations, Limited—a company in the flotation of which, in 1905, some Americans were concerned—has become one of the important rubber-producing companies. The March outturn was 12,500 pounds. At recent London auction sales 18,400 pounds of the company's rubber realized an average of 5s. 4½d. [= \$1.30¾] per pound.

The London *Financial News* of May 5 printed a list of 46 shareholders in the General Ceylon Rubber and Tea Estate, Limited, who had recently made transfers of shares. The number transferred was 14,584; the number retained by the same holders was 14,408. The total number of shares issued to date is 125,366. The pertinence of the list of sales is not plain, though it may be implied that some persons prominent in financial circles are unloading their holdings in this particular company.

The Rio Cimarrones Plantation Co., incorporated under the laws of California, to develop a plantation of rubber, cacao, and tropical fruits, in Mexico, is capitalized at \$75,000.

The directors are R. C. Shaw, Z. P. Smith, and O. M. Bennett, all of Berkeley, California, in which city the company will have headquarters.

A report on plantation rubber (*Castilloa*) from Colombia appears in the official paper published at Bogotá. It relates to rubber produced by Señores Angel, Ferrer, and Tuluk, whose plantations near Quibdo were mentioned in THE INDIA RUBBER WORLD December 1, 1905 (page 75). The rubber was sent to London, where it was declared to be worth 3s. 10d. to 4s., with Pará fine at 4s. 8d.

The Pennsylvania Obispo Plantation Co. (Scottsdale, Pennsylvania) report the measurement on their plantation "El Cedral," in Mexico, of *Castilloa* rubber trees 3½ years old from seed, 28½ inches in circumference, 18 inches from the ground. They have about 190,000 trees of this age.

In a recent article on the "manicoba" rubber plantations of the Brazilian Rubber Plantation and Development Co., of New York, in Piauhy, Brazil [see THE INDIA RUBBER WORLD, May 1, 1909—page 279], the fact was omitted that they cover 728.95 hectares [=1,801.24 acres].

RUBBER GOODS FOR NEW YORK CITY.

THE City of New York, the yearly expenditures of which far exceed those of any other city, is a very considerable buyer of rubber goods, which are required in great variety. In a single recent issue of *The City Record*, tenders are invited for rubber goods for the Borough of Brooklyn; for rubber boots and rubber coats for the department of water supply; for rubber insulated submarine telephone cable, for the police department; rubber boots for the bureau of sewers, and so on. Such advertisements appear almost daily through the year. The largest single article of purchase, perhaps, in the way of rubber goods, is hose for the fire department. The city must buy tires for its hundreds of automobiles, in addition to many horse-drawn vehicles and bicycles. The item of rubber stationers' sundries required in the public schools alone runs into a lot of money; likewise the rubber supplies for the city hospitals and charitable institutions.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of value of exports of manufactures of india-rubber and gutta-percha for the month of April, 1909, and the first ten months of five fiscal years, beginning July 1:

MONTHS.	Belting, Packing and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
April, 1909	\$172,124	\$67,782	\$350,182	\$590,088
July-March	1,053,758	1,071,489	2,805,914	4,931,161
Total	\$1,225,882	\$1,139,271	\$3,165,096	\$5,530,249
Total, 1907-08	1,141,634	1,365,616	3,122,544	5,629,794
Total, 1906-07	1,040,560	1,007,935	3,015,892	5,064,387
Total, 1905-06	1,035,705	1,360,346	2,369,480	4,765,531
Total, 1904-05	794,256	1,100,093	2,064,066	3,958,415

The decline in the exports of rubber goods which occurred during the financial depression some time ago has well nigh been recovered from. The above table permits this comparison to be made of conditions for the past 10 months, as against the preceding period:

Decrease in boots and shoes	\$226,345
Increase in belting, etc.	\$84,248
Increase in miscellaneous	42,462
Net decrease	\$99,635

It would appear from the table that the exports of boots and shoes are less stable than in other rubber lines. Thus 1906-07 showed a marked falling off in rubber footwear, while the miscellaneous column showed a gain of more than 27 per cent.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

I REFERRED to this topic a short time ago, but a reference to a new patent connected with spreading, in the May issue of *THE INDIA RUBBER WORLD* (page 292) suggests that a more detailed reference to the interesting works at Hazel Grove, near Stockport, may not be without interest.

T. GARE'S PATENTS.

With regard to the spreading patent of Gare, and that for making sheet rubber by a new process, I cannot say anything from personal knowledge, but I have seen the first patent for the remaking of solid cab tires, railway buffers, etc., in operation and it is certainly very interesting and to my knowledge novel. I understand that granting of the patent, which is dated December, 1908, was much delayed by opposition from a source of which I have no detailed information. Since then another patent on somewhat similar lines has been granted, though it was opposed by the Gare interests. The process itself, to briefly summarize the patent, consists in reducing the worn but not decayed rubber to fine powder, this being effected on machines which have been specially designed and patented. The rubber powder is fed in at one end of a specially constructed die machine by a hopper and after compression into a solid mass it appears again as a new tire at the other end. Except in the rate of production the process much resembles that ordinarily seen at a rubber works. In Gare's process, though the production of the tire is continuous, it is at a much slower rate. The temperature the rubber is subjected to is from 390° to 400° F., and it is carefully regulated by a thermometer. The tire is rolled up on a drum as it comes from the machine after passing over a bed of French chalk. No other processes are necessary and the tires can be put on the wheels they came from after a very short time. The remade tires have given, I understand, every satisfaction, and as they can be produced at a much less cost than new ones it is evident that the manufacture of and sale of new tires is likely to be adversely affected. The same remarks apply to remade buffers, which appear to give very satisfactory results, both in mechanical testing and in use. In remaking the buffers the ground rubber is compressed in molds by hydraulic pressure and then heated in the molds in a hot-air chamber up to about 400° F. Among other goods being made are horseshoe pads and rubber heels. As mentioned in my former notice, a company with a large capital has been formed to take over the Gare patents, and this company has already issued licenses to three or four British rubber manufacturing firms to use the tire patent. Subsidiary companies are also in process of formation to work the patents in the various colonies, though with regard to these it would seem as if there was not much prospect of large business in some of the cases. It may be mentioned that a somewhat similar patent of O. C. Tunewich, of Finchley, London, dated December 24, 1907, has reference to the manufacture of vulcanite articles from powdered waste vulcanite, this being heated to about 400° F. in a mold. A variation of this process is to use the waste vulcanite in the form of turnings or shavings, a spring being provided to take up any excessive pressure developed during the compression at 400° F.

The prospectus was issued on May 17 of the Rubber Tanned Leather Co., Limited, with a capital of £250,000, of which £150,000, mostly in shares, goes to the promotion interests which comprise the Rubber Tanning Syndicate, Limited, of London, and the Rubberized Leather Co., Limited, of Melbourne, Australia. The board, whose chairman is Lord Suffield, is more representative of rubber planting than of the leather trade. The

reports on the process mostly emanate from those who have tried the new product made up into articles of commerce, though there is a satisfactory report from one firm of tanners. There does not appear to be any report from any scientific authorities on the leather manufacture; at least none such were sent out with the prospectus. The title of the company is to some extent ambiguous. It is not quite clear on the face of it whether the rubber does the tanning or whether the previously tanned leather is treated with rubber in order to make it more waterproof. The main object of the ordinary tanning processes is, of course, to render the gelatine of the soft and flabby hide insoluble by conversion into tannate of gelatine. Other processes, such as the chrome process, have the same result without the use of tannic acid. I am not aware that the gelatine can be fixed merely by treatment with rubber and imagine that some body such as tannic acid or chrome is used in conjunction. This company is, of course, on a different footing to those which have had for their object the substitution of leather by some other product. Various leather substitutes have had a certain degree of success in certain directions, but they have never really threatened the old established leather interests. The new product, however, will, I imagine, come into close conflict with the latter if the claims as to its superiority for boots, driving belts etc., are generally substantiated.

THE Seventh International Congress of Applied Chemistry was opened on May 27 by the Prince of Wales in the Albert Hall, London, and was attended by about 3,000 representatives of 20 different countries, as well as by a number of ladies. From the india-rubber point of view there is not a great deal of interest to record. Several papers, it is true, were put in the agenda, but in only one case did the author appear in person. This absence of authors, indeed, struck me as depriving the congress of an important element of interest. Herewith is a list of the papers on rubber announced in the daily journal of the congress to be read at stated times:

1. Theorie und Praxis der Kautschukregeneration. By Paul Alexander.
2. Die Nitorite der Kautschuk. By Paul Alexander.
3. A Technical Process for Improvement of Low and Medium Grade rubbers. By M. W. Wildermann.
4. India-Rubber in North America. By Henry C. Pearson.
5. Chemie des Kautschuk. By Richard Weil.
6. Besprechung über Kautschuk Analyse. By R. Weil and P. Tenune.
7. The Analysis of Manufactured India-Rubber Goods. W. F. A. Exmen.

Mr. Wildermann proposed to improve inferior rubbers by treatment with alcohol and chloroform to remove resin and certain other constituents. The suggestion was adversely criticised by Dr. H. P. Stevens and it is certainly not easy to imagine it coming into regular application. But there is not space here for further details regarding this or any of the other papers mentioned.

At the closing meeting of the congress the American ambassador, Mr. Whitelaw Reid, read an invitation from the United States government to hold the 1912 Congress in New York. Professor W. Morley was elected honorary president and Dr. W. H. Nichols president, in the places of Sir Henry Roscoe, F. R. S., and Sir William Ramsay, K. C. B., F. R. S.

SOMEWHAT of a novelty in British newspapers is the prospectus of a Canadian company—that of the Canadian Mineral Rubber Co., Limited. This is a development of the American Asphalton and Rubber Co., working gilsonite and bituminous limestone mines, and its object

is to extend this business to Canada and Mexico. It does not appear that any deposit of gilsonite—otherwise elaterite or mineral caoutchouc—has been discovered in Canada and Mexico, but works are to be erected in these countries to manufacture the stuff into insulating material and to prepare it for other well-known uses, one of which is a so-called flux, in the rubber manufacture. This material has long been known to occur in the limestone of

Derbyshire, England, but in too small quantities to make its commercial exploitation likely to prove successful. A quite new department is, however, the establishment of asphalt works at a Derbyshire limestone quarry where the rock contains a good deal of bitumen. There is, however, no such vein of solid bitumen as is found at Utah and has been proved to a depth of 850 feet. [Further details occur in our department of News of the American Rubber Trade.]

The Rubber Interest in Europe.

TO MAKE "ZAKINGUMMI" IN GERMANY.

A COMPANY has been registered at Nordhausen under the style Deutsche Zakinwerke, Actiengesellschaft, with a capital of 500,000 marks [= \$119,000], for the purpose of manufacturing and utilizing substances similar to india-rubber, and more particularly "Zakingummi," a substitute invented by Olsson, of Sweden. [See THE INDIA RUBBER WORLD, June 1, 1907—page 268.] The company likewise intends to participate in similar and other enterprises, whenever such participation is likely to be of assistance in the attainment of the company's purposes. The capital has been subscribed for at par by the organizers, Messrs. Robert Petzold, a merchant of Elberfeld; Friedrich Fisher, capitalist; Dr. Paul Schencke, pharmacist; Hermann Rathsfeld, manufacturer; and Fritz Fischer, engineer, of Nordhausen. The directors are: F. Fischer, H. Rathsfeld, and Erich Jäger, merchant. The managers of the company are Robert Petzold, of Elberfeld, and Dr. Paul Schencke, pharmacist, of Nordhausen.

BUSINESS OF METZELER & CO.

At the last annual meeting of Actiengesellschaft Metzeler & Co. (Munich), the reports for the business year 1908 were approved and a dividend of 5 per cent. declared, as usual. In regard to business during the current year, the meeting was informed that the company had received ample orders and that it still had a stock of crude rubber bought at favorable prices, but that it would have to rely for further supplies on the open market, which is at present unsteady, as soon as the stock on hand had been worked up. The outlook for the business in surgical and technical rubber goods, as well as for the bicycle tire business, was stated to be favorable, while sales of pneumatic tires for automobiles had recently shown a material increase, compelling the works to increase the number of working hours.

AMERICAN RUBBER FOOTWEAR ON THE CONTINENT.

THE Hamburg firm of Ekert Brothers (consisting of Leon. Maximilian and Joseph Ekert), wholesalers of rubber footwear, is the subject of a lengthy article in *Der Schuhmarkt* (Frankfort o/M., June 3). They have devoted their attention largely to the trade in American rubber shoes on the continent. Our contemporary says:

"There was a time when dealers were averse to handling light American rubber shoes, averring that the public was buying rubber shoes according to their weight, considering the heaviest shoes to be the best, and that only a heavy rubber shoe could satisfy the customer. It did not take them long, however, to change their views, after these light, elegant rubber shoes had been given a trial, and within a few years the light weight goods have been most satisfactorily introduced into all the more high-class stores. The demand for the 'Candee' and 'Boston' rubber shoes increased to such an extent that the Ekert firm was no longer able to find room for its stock in leased warehouses, but proceeded to erect a new warehouse, which at the present time always contains a stock of many thousand cases. Assorted according to grades and sizes, the trade finds in this warehouse the goods of the two brands named and the product of several other manufacturing concerns who have granted the Ekert firm the exclusive right of sale in most countries. Inasmuch as the European business is mainly conducted from the Hamburg

warehouse, the same contains special styles for various countries, and we believe we may state that the stock comprises 150 different grades of rubber shoes. A few years ago a special sporting goods department was added to the business, and now enjoys a large trade. In this connection we shall confine ourselves to mentioning the widely known 'Scrum' footballs and boots, and the 'Mermaid' tennis shoes, shoes for gymnasts and sandals. In addition to the main warehouse at Hamburg, the firm maintains special warehouses in a number of large German and foreign cities, which place it in a position to promptly meet



EKERT BROTHERS, "EKERTHAUS," HAMBURG.

the demands of its extensive trade. The firm of Ekert Brothers can point to 15 years of successful work, and in view of an efficient force of traveling salesmen and agents, the future extension of the business may be expected to fully equal its development in the past."

THE ANNEXATION OF THE CONGO.

UNDER the auspices of the chamber of commerce at Antwerp, beginning on June 6, occurred a notable "patriotic manifestation" commemorating the annexation of the Congo Free State to Bel-

gium. King Leopold honored the occasion with his presence, and was the recipient of an address from the chamber, in which his influence in the matter of the annexation was applauded, and to which he made a response at length. An industrial parade representing the leading interests of Antwerp and the kingdom followed, and at the close of the day named a banquet was served to 1,400 guests, his Majesty being present. The rubber interest naturally was well represented, among those taking part being M. Edouard Bunge and Willy M. Friling, of Bunge & Co., M. Gustav Grisar, of Grisar & Co., and M. Louis Van de Velde, of L. and W. Van de Velde, leading rubber houses in Antwerp. Our esteemed contemporary, *La Tribune Congolaise*, is to be congratulated upon its interesting special issue brought out for this occasion, with 40 pages and 188 illustrations, in connection with a very full review of the resources of the Congo and the progress of that region under the régime which preceded the annexation.

GERMANY.

THE annual meeting of Frankfurter Asbestwerke Aktiengesellschaft (formerly Louis Wertheim) was held at Frankfurt a/M. on May 15. The net profit for 1908 was 86,731 marks [= \$20,641.92], and the dividends declared were 6 per cent.

The dividend of Hannoversche Gummi-Kamm Compagnie A.-G. (the Hanover India Rubber Co.) for the business year 1908 amounted to 22 per cent., against 21 per cent. for the preceding year.

Herrmann & Co., manufacturers of seamless rubber goods in Berlin, and Richard Linke, a dealer at Zittau, have consolidated their business under the name Linke, Herrmann & Co., G. m. b. H.

The dividend of Vereinigte Berlin-Frankfurter Gummiwaren-Fabriken for the business year 1908 was 9 per cent.—the same as for several years past.

GREAT BRITAIN.

THE accounts of Callender's Cable Construction Co., Limited, for the business year 1908 show net profits of £61,614 [= \$229,844.53]. The ordinary dividend was paid on the preference shares, and the interest on the debentures, and 10 per cent. on the ordinary shares, with 5 per cent. bonus on the latter. The carry-over is £45,884, against £45,107 last year.

Claudius Ash, Sons & Co. (1905), Limited, makers of dental rubber and other dentists' supplies, report a net profit for 1908 of £89,415. [= \$435,138.10]. Dividends were 5½ per cent. on preference shares and 8 per cent. on the common.

At the fifteenth general meeting of the Greenwich Inlaid Linoleum Co., Limited, (London, May 26), working Frederick Walton's new patent, the year's accounts showed a net profit of £69,052 [= \$336,041.56]. Dividends—5½ per cent. on the preference capital (£100,000) and 15 per cent. on the ordinary (£240,000)—absorbed £41,500; debenture interest, £5,400; added to reserve, £15,000; carried forward, over £6,000. The chairman, Sir William Treloar, J. P., late lord mayor of London, was reelected.

Rubber Patents, Limited, registered in London, May 18, 1909; capital, £15,000 [= \$72,997.50]. To take over the manufacture of footballs, tennis balls and other rubber goods carried on at 9, Charles street, Manchester, under the name Progressive Rubber Co., and also various patented inventions relating to such lines of manufacture.

At the fourth annual meeting of Johnson & Phillips, Limited (London, May 28), showed net profits of £10,037 [= \$48,845]. After providing for the appropriations shown in the profit and loss account there remained to be carried over £681, against £6,873 in the preceding year. The unfavorable conditions of the past year were commented on by the chairman, who expressed confidence in any early revival of trade.

Charles Featherstone, of Altrincham, near Manchester, has secured the representation for Great Britain for the hose manufactured by the New York Belting and Packing Co., Limited, and the Eureka Hose Manufacturing Co., of New York.

RUSSIA.

THE net profits of Russisch-Französische Gummi-, Guttapercha- und Telegraphen-Werke in Firma "Provoduik" at Riga, for the last business year reached 1,983,540 rubles [= \$1,021,523.10], on a turnover of 21,673,580 rubles. A dividend of 12 per cent. was declared on a capital of 7,000,000 rubles [= \$3,605,000].

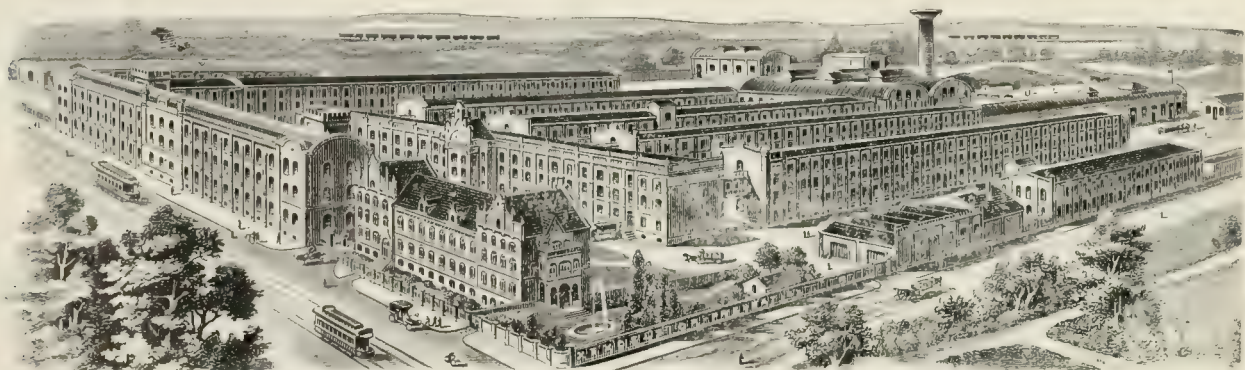
EARLY DESIGNS IN RUBBER FOOTWEAR.

IN the very early days of rubber shoe manufacture, some quite artistic designs were attempted and produced. The illustration shows some very natty goods made by Christopher Meyer and covered by patents dated nearly 40 years ago. These



ROLL ENGRAVED RUBBER SANDALS.

patents cover the process of making imitation sandals and also the dies and rolls used in forming the ornamented surface.



FACTORY OF THE HANNOVERSCHE GUMMI-KAMM COMPAGNIE, A.-G.
[Important German manufacturers of hard and soft rubber goods; established 1862.]

AERIAL NAVIGATION IN GERMANY.

FROM THE "GUMMI-ZEITUNG," BERLIN.

ALTHOUGH the press has been flooded with notes on Zeppelin's dirigible balloons, very few accurate technical details have as yet been published, with the exception of some articles in the *Gummi-Zeitung* and other trade papers. A lecture delivered last March by Admiral Prince Henry of Prussia before the Verein für Motorluftschiffahrt (Aerial Motor Navigation Society) of Kiel may, therefore, prove to be of interest. We have selected from the lecture the following particulars concerning the airship "Zeppelin 1":

The floating balloon shed at Manzell is built on pontoons, and so anchored that it can be readily turned until its open end faces in a direction opposite to that from which the wind blows. A channel in which the cars find a support runs in the direction of the longitudinal axis of the shed, while batteries of hydrogen tanks, used for inflating the "ballonets,"* are installed in both sides. The airship can be hoisted to the roof of the shed for making repairs.

The balloon proper is composed of 17 separate balloons, all of which are in turn enclosed in one common covering. A 4-cylinder engine, operating two propellers, is installed in each of the two cars. If a person in one of the cars desires to exchange places with a person in the other car, both must proceed simultaneously toward the center of the connecting bridge, so as to preserve the equilibrium, since the airship is exceedingly sensitive to such changes in the distribution of the load. The operating qualities and efficiency of the airship are not only impaired by its inability to overcome the force of the wind when it exceeds 11 meters per second,† but likewise because the propellers revolve at considerable heights in a medium of lesser density which reduces their propulsive power, and that at such heights both the ignition and combustion in the engine are apt to become defective, in consequence of an insufficient supply of oxygen.

During the trip made by Prince Henry, which was of 6 hours' duration, the distance covered was 210 kilometers [=130½ miles], and the airship rose to a medium height of about 260 meters above the level of the Lake of Constance. The consumption of benzine amounted to 210 kilograms, while 36 kilograms of lubricating material were used and 40 kilograms of ballast thrown out. The "Zeppelin 1" recently made a two-hours trip without ballast, the same being replaced with a crew of 24 persons.

The Zeppelin-Luftschiffbau-Gesellschaft (Zeppelin Airship Construction Co.), as well as various committees, are planning a series of regular airship lines between Frankfort and Düsseldorf, and between Friedrichshafen and the cities of Lucerne, Cologne, Munich, and so on. Other plans for the establishment of "airship ports" in Cologne, Lerchlingen and Metz are presumably based on these proposed lines, but there is sufficient reason to doubt whether such enterprises could be made profitable for a long time to come. At present the British are the only ones who see the atmosphere crowded with Zeppelin airships, as proved by the excitement into which timid English minds were recently thrown, when mysterious airships were seen to float over England in the night and induced the British war department to engage in shooting practice with shrapnel using captive balloons as a target. It soon leaked out, however, that these horrifying dirigible balloons were merely 25-foot models of airships made by the English manufacturing firm of Spencer (at the price of 10s. 6d each), in which an alcohol lamp produced rarified air.

Two new dirigible balloons of German construction have just been announced. Professor Schütte, of Danzig, is building an airship of the rigid type, in which the aluminum frame is to be

replaced with a wooden frame in the shape of a coil which is claimed to possess greater strength and to be exempt from dangerous electric charges and discharges. The capacity of this balloon is to be 13,000 cubic meters and four benzine motors of 100 H.P. each are to be installed in the two cars.

The second type of construction is the invention of Oberbaurat† Rettig, of Danzig, who intends to construct the body of the balloon throughout of light wooden panels, connected by air-tight joints. He has planned to charge this covering or shell with hydrogen without any separate ballonets. Our rubber industry is not liable to suffer much damage from this competition, as it may be safely assumed in advance, as an undoubted fact, that rubber covered or impregnated fabrics are far superior, both as tight gas containers and in strength, to such an immense fragile wooden casing as one of 11,000 cubic meters capacity.

The price list of a new firm, the Aérooffice, of Paris, furnishes some information regarding the prices of airships and flying machines. A small spherical balloon (600 cubic meters capacity) costs from 1,000 marks [= \$238], when made of cotton cloth, to 5,000 marks [= \$1,190], when made of double rubber-covered fabric. The prices of a balloon of large size (say, 4,000 cubic meters) range between 6,000 and 17,000 marks. A Voisin flying machine of the type used by Farman costs 25,000 marks, and an Esmault-Pelterie aeroplane with 30 H.P. engine is listed at 41,000 marks, the price of an Antoinette aeroplane being only 10,000 marks. Following the lead of the Allgemeine Elektrizitäts-Gesellschaft (General Electric Co.), in Berlin, the Benz Motor Works in Mannheim have started to build flying machine engines.

The first step toward the practical introduction in Germany of airships heavier than air has just been taken by the Flugmaschine Wright, G. m. b. H. (Wright Flying Machine Co., Limited), which was recently organized with a capital stock of 500,000 marks [= \$119,000], with the participation of the Allgemeine Elektrizitäts-Gesellschaft, the Actiengesellschaft Friedr. Krupp, Ludwig Loewe & Co., and various other corporations and banking houses. This company has acquired the right to work all the Wright patents and all future improvements on the same during a contract term of 15 years in Germany and her colonies, Sweden, Norway, Denmark, Luxemburg and Turkey. Further proof of the efficiency of the Wright bi-plane was recently furnished by Tissandier, one of Wright's scholars, who covered 57 kilometers [= 45½ miles] in one hour, during a flight he made at Pau. The flying machine invented by the government architect Hoffmann is now being assembled on the Tempelhofer field at Berlin, and experiments will be made with it in the near future.

REFERENCES.

- AERONAUTICS and the Rubber Industry. THE INDIA RUBBER WORLD, October 1, 1908—page 7.
Rubber in Balloon Construction. THE INDIA RUBBER WORLD, February 1, 1909—page 182.

A CEMENT for uniting leather, india-rubber, cloth, wood, and so on, is formed of gutta-percha dissolved in a mixture of carbon bisulphide and ether, preferably in the following proportions: Carbon bisulphide, 1 pound; ether, 4 ounces; gutta-percha, 4 to 5 ounces. The cement may be used in repairing tire tubes and covers, and for uniting parts of botts and the like. This invention is covered by the British patent 28,188 (1907) granted to R. Jensen.

A NEW patent tapping knife used in the East is the "Barrydo," invented by G. S. Brown and made by Brown & Davison (Colombo). Its blade has four cutting edges and is easily reversible; it cuts right and left hand, "pull or push," without adjustment; it cannot choke, and requires no sharpening.

*The sections of which the large balloon of the airship is composed.
†About 25 miles per hour; a good or stormy breeze.

†The title of chief architects or commissioners of public works in Germany.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED MAY 4, 1909.

- N**O. 920,216. Tire. [An outer tube and a plurality of resilient inner tubes.] J. C. Taylor, New York city.
 920,237. Piston [Packing.] R. Allen, Caversham, England.
 920,289. Pneumatic tire. J. W. Earnhardt, Los Angeles, Cal.
 920,502. Sheet packing. V. Tompkins, assignor to Smooth-On Mfg. Co., all of Jersey City, N. J.
 920,523. Tire. [Cushion.] G. T. Beckers, Los Angeles, Cal.
 920,603. Wheel for vehicles. [Multiple pneumatic tire.] E. E. Michelin, Clermont-Ferrand, France.
 920,676. Rubber footwear. [Details of a heel of an overshoe.] G. E. Smith, Wellington, New Zealand.
 920,690. Resilient wheel. F. C. Thomas, Mill Valley, Cal.
 920,699. Shield for rubber tires. D. E. Walker, Indianapolis, Ind.
 920,735. Automobile tire. M. Hanford and D. L. Taylor, Malden, Mass.
 920,795. Shield for rubber tires. D. E. Walker, Indianapolis, Ind.

Trade Mark.

- 38,555. The Simplex Electrical Co., Boston. The representation of an insulated conductor with a red thread inserted longitudinally between the insulating layers of the conductor. For insulated electrical conductors.

ISSUED MAY 11, 1909.

- 921,001. Manufacture of waterproof articles from fibrous materials. I. L. Roberts, Lockport, N. Y.
 921,079. Hose shield. G. E. Burtcher, Chicago.
 921,148. Process for regenerating rubber waste of all kinds. J. H. L. Neilson, Hanover-Linden, Germany.
 921,151. Automobile tire. H. Parsons, Deer Lodge, Mont.
 921,174. Pneumatic tire. W. H. Snyder, Kenton, Ohio.
 921,316. Rubber roller car fender. W. M. Vallette, San Francisco, Cal.
 921,368. Hose coupling. W. E. Crook, Surry Hills, near Sydney, New South Wales, Australia.
 921,414. Pneumatic tire. G. L. Kline, St. Louis, Mo.
 921,444. Puncture proof attachment for tires. J. B. Oatman, Riverdale, Cal.
 921,461. Overshoe. E. P. Rickert, Cleveland, Ohio.
 921,538. Waterproof material. [Having in combination a fabric or ply impregnated with a waterproof bituminous composition and a layer or ply of parchmentized cellulose.] J. Glassford, Jersey City, N. J., assignor to Consolidated Waterproof Co., New York city.
 921,613. Wheel. H. E. Keyes, Homestead, Pa., assignor to the Triumph Automobile Tire Co., Wheeling, W. Va.

Trade Marks.

- 41,009. Trenton Rubber Mfg. Co., Trenton, N. J. The word *Thermoid*. For brakes and clutches for motor vehicles.
 41,116. Victor Oil and Supply Co., New York city. The letter *V* within a circle under the word *Vanguard*. For rubber and fiber packings and packing rings.

ISSUED MAY 18, 1909.

- 921,691. Hose coupling. C. L. Friday, Quincy, Ill.
 921,710. Pneumatic tire. G. Jacobs, Des Moines, Iowa.
 921,936. Anti-skidding device for wheels. R. M. Winsch, Lansdale, Pa.
 922,093. Spring protector for india-rubber pencil tips. S. H. Crocker, London, England, assignor to Eagle Pencil Co., New York city.
 922,094. Heel cushion for shoes. L. E. Cummings, Pittsburgh, Pa.
 922,130. Packing. F. Goetze, Burscheid, Germany.
 922,402. Demountable tire rim. A. Dow, assignor to Dow Rim Co., all of New York city.
 922,403. Locking device for demountable tire rims. *Same*.
 922,404. Demountable tire rim. *Same*.

Trade Marks

- 40,208. Hood Rubber Co., Boston. The word *Puritan* in a semicircle. For rubber footwear.
 40,209. Hood Rubber Co., Boston. The word *Shawmut* in a semicircle. For rubber footwear.

ISSUED MAY 25, 1909.

- 922,541. Tire tool. J. A. Swinehart, Akron.
 922,597. Vehicle wheel. E. S. Kintz, Kenmore, Ohio, assignor of one-half to M. O. Hower, Akron.
 922,631. Pneumatic tire. F. Reddaway, Pendleton, Manchester, England.
 922,669. Spare tire cover. H. Cohen, Brooklyn, N. Y.
 922,739. Tire protector. E. J. Weidner, Lindsay, Neb.
 922,773. Golf ball. E. Kempshall, London, England.
 923,001. Wheel. G. M. Badger, Quitman, Ga.
 923,059. Vehicle tire. A. M. MacFarland, assignor to W. W. Gibbs and others, all of Philadelphia.
 923,104. Wheel tire. A. R. Bangs, New York city.

Reissues.

- 12,662. Elastic webbing. S. Kops, assignor to Kops Bros., all of New York city.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of these listed below was in 1908.

*Denotes Patents for American Inventions.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 5, 1909.]
 340 (1908). Non-skid pneumatic tire with recessed tread. E. Kempshall, London.
 349 (1908). Detachable tire carrying rim. W. Clark, London. (Communicated from Germany.)
 487 (1908). A non-skidding reinforced band for vehicle tires, boot soles, and the like. A. H. J. P. Hulot, Paris, France.
 530 (1908). Solid rubber tire with transversely notched tread with bridges across the notches. H. R. Carter, London.
 544 (1908). Device for securing the edges of pneumatic tires to channel rims. A. van der Stichelen, Gand, Belgium.
 *607 (1908). Elastic fabric for suspenders and the like. S. Kops, New York city.
 628 (1908). Rim with removable flange for motor tires. W. J. Nordlund, Oakland, California.
 670 (1908). Non-skid tire tread. E. Rodriguez, Chiswick, and three others.
 676 (1908). Detachable tire carrying rim. G. Moore, Aston, near Birmingham.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 12, 1909.]
 808 (1908). Wheel with wooden tread blocks hinged together and pivoted to plate springs carried by the hub, the working length of each spring limited by a block of wood and one of rubber. A. R. Hubbard and R. Flay, London.
 1,044 (1908). Tread of zigzag figure for pneumatic tires. G. T. Turner, London.
 1,141 (1908). Self-sealing tire air tube comprising two separately concentric tubes with an intermediate layer of rubber combined with sulphur and naphtha or with Pontianak or rubber solution. C. Jones and H. C. Newman, London.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 19, 1909.]
 1,254 (1908). Dissolving india-rubber. [Symmetrical dichlorethylene, CH₂Cl:CHCl, described in specification No. 19,568 (1904), as a general solvent, is used as a solvent for caoutchouc, and produces a homogeneous solution free from clots.] E. Fischer, Schonberg, near Berlin, Germany.
 1,268 (1908). Pneumatic tire with outer cover formed of pliable woven fabric constructed from metal cables formed by twisting together strands of wire. P. I. Viel, Paris, France.
 1,480 (1908). Spring wheel with elastic tire. C. J. Montgomery, Rock Ferry, Cheshire.
 1,510 (1908). Device for preventing side slip in motor cars. A. A. Mansell and G. Smith, London.
 1,543 (1908). Puncture preventing band of asbestos and cloth for pneumatic tires. L. Azulay, Eastbourne.
 1,590 (1908). Elastic tire. A. T. Collier, St. Albans, and H. S. Foster, London.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 26, 1909.]
 1,634 (1908). Detachable tire carrying rim. W. H. Brough, London.
 1,738 (1908). Rim for solid rubber tires supported upon helical springs. A. Ottanelli, Settignano, Italy.
 1,750 (1908). Solid rubber tire with grooved tread. C. S. Stone, London.
 2,030 (1908). Lining for pneumatic tire covers. R. Turner, London.
 2,039 (1908). Elastic tire supported by helical springs. J. Thomson, Invercargill, New Zealand.

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

- 397,470 (Dec. 5, 1908). L. L. Nozal. Machine for mounting rubber tires on wheels and fastening same with cables and attaching rims.
 397,472 (Dec. 7). J. Nash and A. H. Roper. Sectional pneumatic tire.
 397,491 (Dec. 15). J. Boelen. Air tube for tires.
 397,521 (Feb. 26). J. de Pontoux. Pneumatic tire.
 397,636 (Feb. 29). A. S. Jonas and G. L. Getting. A type of tires and block tread for road vehicle wheels.
 397,552 (Dec. 17). R. B. Price. A process for the preparation of rubber, so as to preserve the same and make it fit for transportation.
 397,561 (Feb. 27). C. Coquerelle. A process and composition for soldering, glueing and hardening rubber, leather and similar materials.
 397,614 (Dec. 18). L. Lanthernier. A process for increasing the wearing qualities of artificial rubber and rubber substitutes, artificial leather and leather substitutes whenever the same are used for making pneumatic tire treads, shoe soles and the like.
 397,879 (Dec. 24). Baue and Naulot. Protection for pneumatic tires and balloons.
 397,748 (Mar. 5). G. Plasse. Elastic tire.
 397,740 (Mar. 5). Lesage. Tire protector.
 397,811 (Dec. 23). Mlle. Kauffmann and Mlle. Devinoy. Waterproof protector for hats and bonnets.
 397,987 (Dec. 29). E. A. Garvey and C. A. Garvey.
 397,988 (Dec. 29). Fox Metallic Tire Belt Co. Tire protector.
 398,001 (Dec. 29). P. Dupont. Removable tire rim.
 398,039 (Dec. 31). Mac Giehan. Pneumatic tire.

The Late James Bennett Forsyth.

AN exceedingly wide circle in the rubber trade received with a sense of personal bereavement the news of the death of James Bennett Forsyth, who, for a longer period than is usual in a career of business activity, had been identified with one of the oldest companies in the rubber industry in America. Though Mr. Forsyth had been an invalid for some time, until within a month or so his associates in the business had looked forward to his return to the office in which he was so long the leading spirit. But in time his physician became less and less hopeful, and on the evening of June 13 he passed away peacefully and without pain.

Mr. Forsyth was born in Brookline, Massachusetts, February 2, 1850, and six years later his family removed to Roxbury (now in Boston), where his father, William Forsyth, had charge of a department in the factory of the Boston Belting Co. The son's health at an early age was such as to prevent his regular attendance at school, and the family physician advised that he be put at some light employment as a probable means of improving his health. Early in his fourteenth year, therefore, he was placed in the office of Mr. Merrill, clerk of the company at the factory, to assist him generally in the office, and to go to the post-office and the bank. At that time John G. Tappan was treasurer of the company, and Charles McBurney, the manufacturing agent, the company's store in Boston being conducted under the style of Tappan, McBurney & Co., selling agents. The superintendent was Robert Hale. It was a part of the duties of the young assistant clerk to go frequently through the mill, particularly in regard to goods to be shipped to the store, and after a time he asked permission of the superintendent to work in the mill when he could be spared from the office. Mr. Hale consented, and he worked for several hours each week, first in one department and then another as he chose, for a year or more.

On February 1, 1864, Mr. Merrill, having been forced by illness to retire, his assistant was promoted to the office of clerk. Fourteen months later, he was made assistant superintendent under Charles McBurney, who had succeeded Mr. Hale, and on April 1, 1866, Mr. Forsyth became superintendent. Four years later he took the position also of manufacturing agent. These two positions he held until the spring of 1884, when he relinquished the work of superintendent, and in addition to manufacturing agent, was made general manager of the company, and these two positions he held for several years. The presidency of the company, at the date first mentioned, was held by Henry F. Durant, who was succeeded by Elisha S. Converse. For a while the office was filled by Mr. Eaton, after whose death Mr. Forsyth was elected president, which office, in connection with that of general manager, he occupied until the end of his life.

If any single rubber factory should be selected, to illustrate in its history the development of the india-rubber industry in the broadest sense, there could scarcely be an objection anywhere to giving the preference to the Boston Belting Co. The seal of

that company bears the date 1845, but the business dates back, in unbroken succession, to the first important attempts to make rubber goods in the United States, and their premises embrace the original building—one which possesses additional historic interest as having been the scene of part of Charles Goodyear's early work. The company started on a career of success from its first adoption of the process of vulcanization, and perhaps in no other rubber factory have a greater number of practical processes and appliances been developed.

Mr. Forsyth contributed greatly and in very many ways to the success and prosperity of the company, both through his inventions and his administrative ability. His patented inventions cover many useful machines employed in the industry, and many important articles of manufacture. Several years ago it was stated that he had taken out more than 50 patents. A complete list of these is not now available, but a reference to the

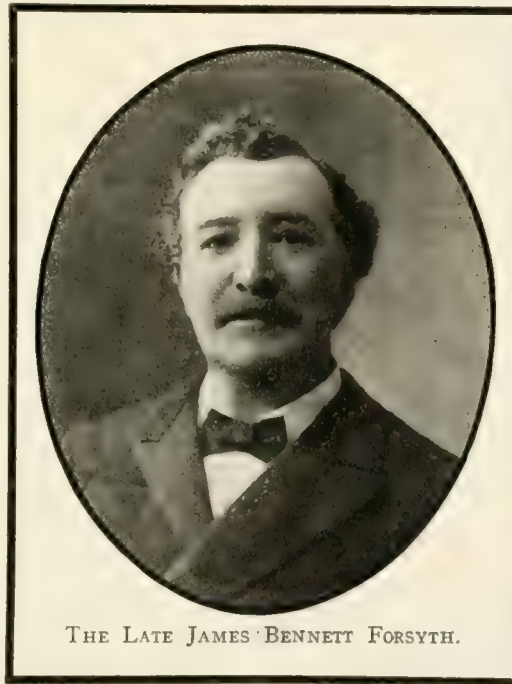
patent office records subsequent to the date alluded to shows that many additional patents have been granted to him. They cover machinery for the making of rubber hose, for making and stretching rubber lined cotton and linen hose; rubber covered rollers for use in cotton, woolen and paper mills, print and dye works, bleacheries and so on.

The family of Mr. Forsyth is of French extraction, existing for many generations under the name Forsath or Forsaith, which became Forsyth on the removal of a branch of the family to Scotland. Captain Alexander Forsyth, born in Ayrshire in 1689, removed to Boston, where he was married in 1715, and where for many years he was selectman and otherwise a prominent citizen. His son John also rose to many positions of public trust in Boston. Both eventually returned to Scotland, and died there. A son of the latter, born in Scotland, was Captain John Forsyth, of the British army, whose son William (born in Ayrshire 1807—died in Bos-

ton, 1876) was the father of the subject of this sketch. He married, Jane, daughter of Hamilton Bennett, Esq., of Buxton, England. They were survived by four sons, of whom James Bennett was the second, all becoming connected with the Boston Belting Co. There now remain two brothers—John Hamilton and Thomas Alexander—and they are still with the company.

Mr. Forsyth served as a director in the National Rockland Bank of Roxbury from 1882 to 1894. He was one of the incorporators of the Rubber Manufacturers' Mutual Insurance Co., was elected to its first board of directors, and continued in that capacity until January 28, 1903, when he resigned. From 1888 until his death he was one of the trustees of Forest Hills Cemetery, in which he always took great interest and pride. He was a member and honorary vice-president of the New England Rubber Club and a life member of Joseph Warren Lodge, A. F. and A. M. Mr. Forsyth was unmarried and had resided at the Hotel Touraine since that hostelry was first opened. It was here that his death occurred.

Funeral services were held on June 15 in St. James's church, Roxbury. The officiating clergyman was the Rev. Murray W.



THE LATE JAMES BENNETT FORSYTH.

Dewart, assisted by the Rev. Daniel Dulaney Addison, of All Saints' church, Brookline. The Albion Male Quartette sang "Rock of Ages" and "Nearer My God to Thee," in addition to the music rendered by the church choir and organist. The Rev. Mr. Addison read Tennyson's poem, "Crossing the Bar."

Mr. Forsyth was one of the most interesting figures that the rubber trade has known. His strong aquiline features, black eyes and wealth of wavy black hair, in which there was hardly a thread of silver, made him a notable figure anywhere. The company which he built up was his idol, and he sacrificed himself to it. After a long day at the factory and office, he often worked far into the night. No amount of persuasion could prevail upon him to take a vacation. He had a vague plan for the purchase of a farm on which he would one day enjoy life, but was never quite ready for it.

One of his most lovable characteristics was his friendliness. Scores and hundreds sought his advice and found him always interested, always the comforter and helper. His industry and pertinacity were wonderful. Once embarked upon a policy he followed it to the end, at no matter what cost in money or effort.

With the many basic lines in rubber manufacture that have today grown into separate industries, he was not only familiar, but he had in many cases developed them experimentally years before the world was ready for them.

TRIBUTE OF THE NEW ENGLAND RUBBER CLUB.

It is with profound sorrow that we, the committee representing the New England Rubber Club, learn of the death of our fellow member and Honorary Vice President, James Bennett Forsyth. Seldom is it given to a man in any industry to be at once a pioneer, founder, and successful administrator. In intimate connection with the rubber trade for half a century, the originator of many of its most valuable processes, the builder of a great and successful business, he was a merchant-manufacturer of the highest type. Capable, conscientious, courteous, of infinite industry, a wise and careful counsellor, ever loyal to friend, to his business associates, and to the industry that he helped to create, his loss will long be felt. It is therefore

Resolved, That in his death our association and the trade at large suffer an irreparable loss.

Resolved, That we extend to his family our appreciation of his noble character, and of our sympathy for them in their great bereavement.

GEORGE P. WHITMORE,

E. E. WADBROOK,

A. M. PAUL,

Committee on Resolutions.

Boston, June 21, 1909.

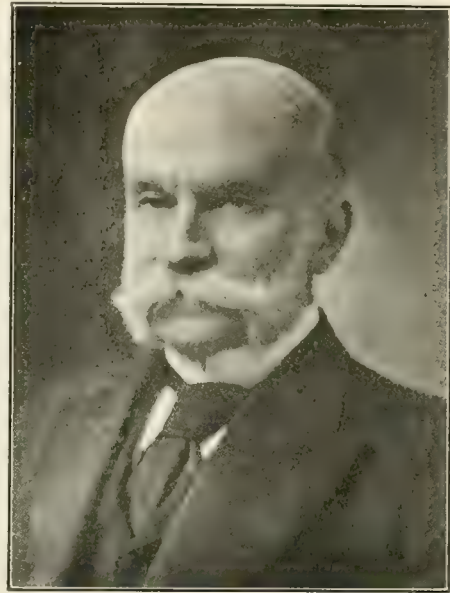
HOLLAND BENNETT.

HOLLAND BENNETT, a well-known young Boston lawyer, who died at sea on the steamship *Berlin*, which arrived at Genoa from New York on June 11, was the son of Josiah Q. Bennett, who is connected with a number of important corporations, including the Boston Woven Hose and Rubber Co., of which he is a director and secretary. The deceased was a member of the legal firm, Furbish & Bennett. Mr. Bennett was married on May 12 and his bride was on the steamer with him.

GUSTAV AMSINCK.

THE passing of Gustav Amsinck removes perhaps the last survivor of the rubber importing régime in the United States of a half century ago. Born in Hamburg in 1837 and educated in Germany, he came to America at the age of 20. Three years later he joined the banking and commission house of L. E. Amsinck & Co. (New York), founded by his brother, as a partner.

The firm by this time had become interested in the importation of crude rubber from Pará sufficiently to be mentioned along with the older houses of H. K. Corning and James Bishop & Co., both of whom had extensive dealings in rubber. In 1874 the firm became G. Amsinck & Co., with the subject of this sketch at its head—which position he held to the end of his life. The Amsinck firm have continued to import rubber to an important extent to the present, keeping in touch with the changed conditions which time has brought about, while developing on an ex-



THE LATE GUSTAV AMSINCK.

tensive scale other departments of trade with Central and South America.

Socially Mr. Amsinck became prominent in the older German set in New York, and belonged to the more important German societies; he was also from an early date a member of the Union Club, joining later the Down Town Association and Baltosrol Golf Club, the Vaudeville Club, and so on. He was a member of the Coffee and Produce exchanges, and a director in various banks and insurance companies.

In October, 1904, Mr. Amsinck and Mrs. James Hude Beekman, a member of one of the oldest families in the city of New York, were married at Geneva, Switzerland. They established a home at No. 25 East Forty-seventh street, New York, where a delightful hospitality was dispensed, and here Mr. Amsinck died on the evening of June 8. Funeral services were held at St. Thomas's Church (Episcopal), on June 11.

MRS. J. OLIVER STOKES.

THE host of friends in the trade of Mr. J. Oliver Stokes, of the Home, the Stokes and the Thermoid rubber companies, will hear with very deep regret of the death of Mrs. Stokes, which occurred in New York on June 7. Mrs. Stokes was Miss Sara Phillips. The funeral services in the State Street Methodist Episcopal church, at Trenton, were conducted by the pastor, Rev. John D. Fox, D. D., assisted by the Rev. John Y. Dobbins, who, as the former pastor of the church, married Mr. and Mrs. Stokes in 1883. The interment was in the Stokes family plot in Greenwood cemetery, Trenton.

THE recent disaster at sea by which the steamer *Republic* narrowly escaped loss with her passengers, their preservation being credited to the successful call for aid through the medium of wireless telegraph, leads an English contemporary to remark that whatever its success in its proper field, wireless has not been proved to be adapted to carrying on a busy inland traffic. It is *Telephony* that comments thus after quoting from the record of the wireless operator on the *Republic*, most of whose work during several hours seems to have been in urging some of the other boats with wireless outfits to "keep quiet." He referred to one boat which, "using stronger current, drowned everybody," so that the *Republic* was at times cut off from communication with those it was most important to reach. Our contemporary is of the opinion that with hundreds, instead of a few, wireless messages being transmitted at once in the same atmospheric area, there would be simply hopeless confusion.

NEW FEATURES IN TIRES.

GOODRICH "WIRELESS" TIRE.

THE new Goodrich "Wireless" solid tire consists of three integral factors: A special steel base with dovetailed grooves on the top surface; a hard rubber sub-base, which is inseparably united with the steel base, and a soft rubber tread or tire proper, inseparably vulcanized upon the hard rubber sub-base. The tire is mounted on a special steel rim, or felloe band, which projects far enough on either side to protect the rubber from jamming against curbs and the like in service. It is held in place on this band by means of lug bolts on either side of the steel base, and a key on the felloe band which fits into a keyseat on the inside of the steel base of the tire, thus preventing circumferential movement. The fastening point of the Goodrich "Wireless" tire is steel to steel, and is, therefore, absolutely secure. The improved construction makes it possible to set the twin tires on the rim in direct contact with each other. This reduces the space between the tires to the minimum necessary to prevent skidding and displacement of the rubber under stress. [The B. F. Goodrich Co., Akron, Ohio.]

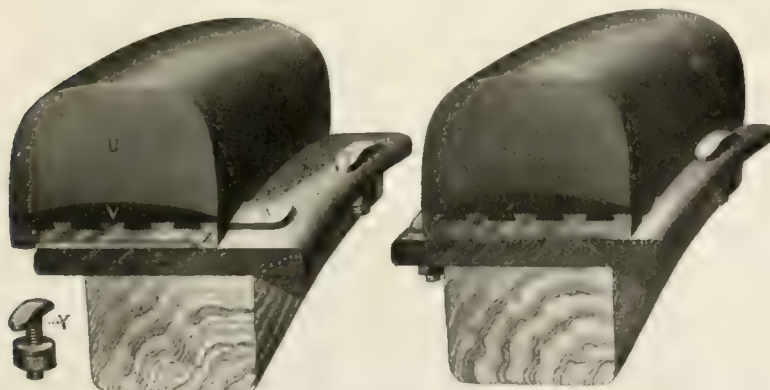
NEW "AJAX" NON-SKID TIRE.

THE tread of this tire is not molded, but is wrapped on the shoe by the same process by which the ordinary smooth Ajax tire is made. The new Ajax tread differs in appearance from the average non-slipping styles; its raised parts being quadrilaterals



NEW "AJAX" NON-SKID TIRE.

3-16 inch in depth, arranged diagonally across the tread. These are placed far enough apart to prevent squeezing and flattening

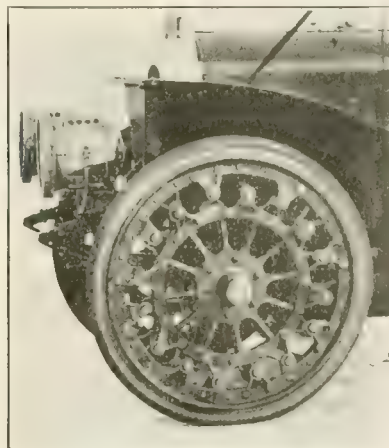


THE GOODRICH "WIRELESS" TIRE.
[The B. F. Goodrich Co., Akron, Ohio.]

into a smooth surface when under weight and in contact with the road surface, which would cause slipping on wet pavements or mud, which non-skids are intended to prevent. The tire itself is heavier than the smooth model, the 3½-inch size having five plies of fabric. [Ajax-Grieb Rubber Co., New York.]

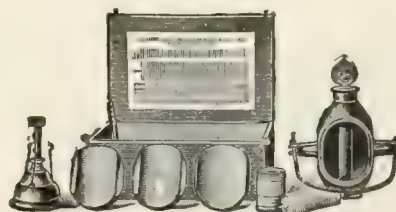
SEATON SPRING WHEEL.

THE American Spring Wheel Co. (No. 227 Williamson building, Cleveland, Ohio) have been organized to manufacture the Seaton spring wheel, and the same interests have incorporated the International Spring Wheel Co., to handle the European patents



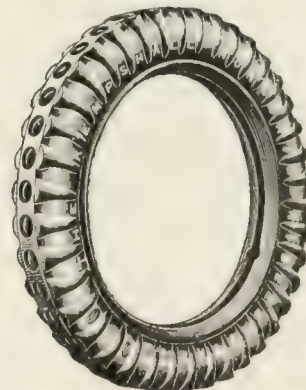
THE SEATON SPRING WHEEL.

on this invention. An important interest in the new companies is held by Mr. William E. Metzger, some time general sales agent for the Cadillac Motor Car Co., after which he formed the Everitt-Metzger-Flanders Co., automobile manufacturers. He has sold his holdings in this to become connected with the Seaton spring wheel manufacture. Mr. Metzger refers to the Seaton as the first spring wheel to successfully make possible the use of solid tires on all types of vehicles, both commercial and pleasure.



"LITTLE WONDER" VULCANIZER.

[Rice & Dayton Manufacturing Co.,
Cedar Falls, Iowa.]



KEMPSTALL NON-SKID TIRE.
[Clyder & Co., New York.]

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

MR. ARTHUR H. MARKS, vice-president of The Diamond Rubber Co., authorizes your correspondent to make the announcement that his company are about to engage in the manufacture of rubber footwear on a large scale. The new department will be located in a new factory building now under construction, on property adjoining the main plant. It is five stories high and affords about four acres of floor space. Not all of this will be used at first for the footwear department. Mr. Marks said he was unprepared to make any statement as to the extent of manufacture of the new product, except that it will be on the same large scale and with the same thoroughness that has characterized the other departures of the company. He was also unprepared to say anything as to the personnel of either the factory or sales management of the new department. A full line of rubber boots and shoes will be manufactured. The Diamond Rubber Co. are rapidly widening their scope. They have just completed the establishment of an extensive insulated wire and cable department.

* * *

OFFICIALS of The B. F. Goodrich Co. deny any knowledge of plans of the company to establish a branch factory in Paris, France. The story was sent out from Paris early in June by a correspondent to the effect that Mr. B. G. Work, president of the Goodrich company, who is traveling in Europe, was in Paris making plans for the establishment of an automobile tire factory near that city, to be operated by American experts from the company's factory in Akron. If this is true the Goodrich company will be the first American tire-making concern to start a factory in Europe. They have already established a selling office and a repair shop in Paris. French sizes are kept in stock for French machines, as well as American sizes for American tourists. Both Mr. Frank H. Mason, vice-president, and Mr. C. B. Raymond, secretary of the company, say they know nothing of the departure.

* * *

THE Goodyear Tire and Rubber Co. will make a hard fight for a reversal of the verdict against them awarded to Barney Oldfield, the noted motor racer, in the Detroit (Michigan) court on June 19, by which the full amount of Oldfield's claim for services, \$6,709.16, was allowed. The company made a contract with Oldfield, August 15, 1905, by which he was to represent them; partly for advertising purposes and partly as salesman. A common agreement between companies in the Clincher Tire Association, at that time in existence, interfered with the contract with Oldfield, and made the Goodyear company liable to a heavy fine. Accordingly it was cancelled nine days later. Oldfield's claim was that there was a secret understanding that his salary was to continue and in the verdict he was allowed \$50 a week with interest from August, 1905, until January 1, 1909. The company's claim, on the other hand, is that the contract was cancelled in good faith and that there was no understanding or side agreement of any kind.

* * *

THOUGH officials of the company have announced no definite plans, it is expected that the Marsh rim factory of The Diamond Rubber Co., at present located in Columbus, will be moved to Akron during the present year. It was the intention of the Diamond company, when the Marsh plant was purchased, to remove it at once to Akron, but the demand for a constant output forbade a cessation of operations long enough to make the change. The Diamond company are at work on two new factory buildings, and it is expected that the rim factory will be placed in one of these.

* * *

DIRECTORS of the Aladdin Rubber Co., of Akron, are contemplating a consolidation with another rubber company, and the

formation of an entirely new corporation, with a new name. Mr. James Christy, president of the Aladdin company, said late in June that the plans were still so uncertain that no definite announcement could yet be made. He said, however, that the location of the plant, which is now in Barberton, Ohio, will not be changed. New buildings will be erected, and the manufacture of mechanical rubber goods will be added to the present reclaiming business of the Aladdin company. Mr. W. W. Wildman, who was until recently assistant manager of the Federal Rubber Co. (Milwaukee), has been selected as general manager of the company. He is now in Akron attending to matters pertaining to the reorganization.

* * *

THE demand for extra sized tires for smaller rims to fit the case of "the fool that overloads his car" has increased so that the Firestone Tire and Rubber Co. are manufacturing several sizes in that type. A new list of these has recently been issued. The annual outing of the employés of the Firestone Tire and Rubber Co. was held at Myer's Lake, between Akron and Canton, on June 26. More than 1,000 attended. A large addition to the Firestone factory which was hinted at some months ago is now positively announced by officials of the company. So far, however, they have no details ready for publication.

* * *

THE B. F. Goodrich Co. announce two victories for the new "Haskell White Streak" golf ball. It was used by the winners in both the Southern championship meet at Memphis, Tennessee, and in the Northern and Southern amateur championship meet at Pinehurst, North Carolina.

* * *

LOCAL companies, especially the Firestone and the Diamond, took a keen interest in the Crown Point (Indiana) automobile races. H. S. and R. J. Firestone, together with their advertising manager, J. F. Singleton, attended in person, and J. A. Braden was the chief representative of the Diamond company.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE gradual improvement which has been noticed in commercial conditions in and about San Francisco since the first of the year has continued during the past month, and collections are slowly but surely getting better. But the rubber houses, among others, say that trade could be from 25 to 50 per cent. better without overtaxing their capacity. With the season done as far as the rubber shoes and clothing and belting for the mills is concerned, there is not a great deal to anticipate until fall. There is a steady demand for druggists' sundries, but the consumption is below the normal and collections are not lively from the druggists. The automobile tire business is the only line that is really active, and the enormous increase in the automobile trade in California during the summer has caused an unusually big business on tires, so that there is no complaint from the tire houses.

Most of the local rubber establishments in San Francisco have exhibits at the big Mechanics' fair and sixth annual convention of the National Association of Stationary Engineers, which is being held out at the Auditorium Pavilion. Very attractive special displays have been made by the Pacific Coast Rubber Co., Bowers Rubber Works, the Sterling Rubber Co., the Eccles & Smith Co., the Plant Rubber and Supply Co., and the Gorham Rubber Co. Edward Garrett, formerly connected with the Gorham Rubber Co., has also on exhibition a good show of his Callahan boiler compound. All of the rubber houses have spent considerable money in making their displays attractive and the rubber exhibits are proving to be one of the most interesting lines at the show. Large crowds have been in attendance and the show has proved a marked success.

Mr. Edward R. Rice, sales manager and also a director of the United States Rubber Co., is now visiting in San Francisco. He

is accompanied by his daughter, Miss Helen Rice, and also by Mr. and Mrs. C. Kenyon, of Kenyon & Co. (Brooklyn), manufacturers of raincoats. Mr. Rice speaks enthusiastically of San Francisco, which he considers to have a wonderful future for the rubber business.

The rubber houses of San Francisco got together and gave a big picnic last week to the automobile people, and at San Mateo, where the picnic was held, those who participated report that they enjoyed one of the best times of the season.

Mr. L. L. Torrey, coast manager for the Pennsylvania Rubber Co., has gone East on a business trip. Mr. Long, a salesman for many years connected with the Bowers Rubber Works, has accepted a position under Mr. Torrey.

The contract for supplying the fire hose for San Francisco has been divided between the Bowers Rubber Works and the American Rubber Manufacturing Co., the two local manufacturers which bid for it.

Bids have been opened for the supplies to the state prisons at Folsom and San Quentin, and the Gorham Rubber Co. expect to handle this business as usual. Mr. Gorham is now in the southern part of the state trying to gain membership to the Tuna Club. Any one who can catch a tuna, the gamest fish in existence, is entitled to membership, and the membership is very small. Mr. Gorham has his fine new steam launch down there, and expected to have his new tender by this time, but owing to an accident last Monday the tender was lost.

Mr. Grant, with Eccles & Smith Co., just finished a good order for laying interlocking tiling at the new St. Mary's cathedral. He also just closed a large order with the new Balfour Guthrie flour mill at Portland, Oregon, for 5,300 feet of 24-inch belt and 1,000 feet of 18-inch belt.

Mr. Oliver, manager and stockholder in the American Rubber Manufacturing Co., was in San Francisco this week and reported that business was very good.

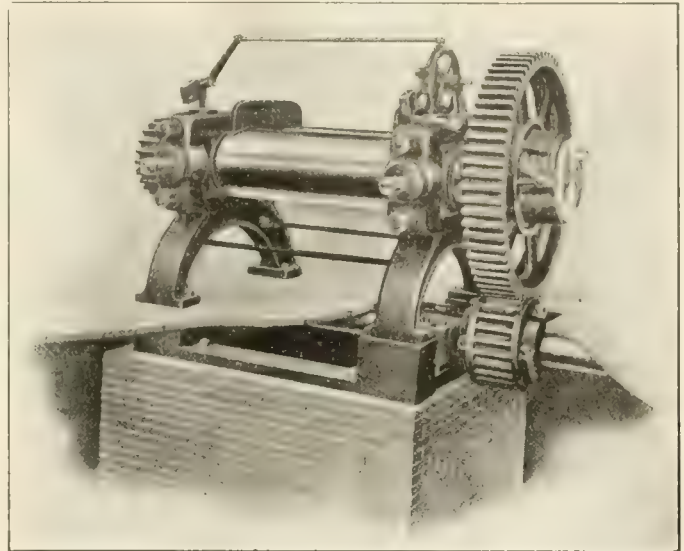
E. J. Fleming, packing representative of the Bowers Rubber Works, is now in New York, in the interests of this firm's "Skookum" packing. Mr. Chase reports that everything at the factory and salesrooms is running smoothly. At the factory the firm have been installing some new calender equipment.

R. H. Pease, Jr., treasurer of the Goodyear Rubber Co., reports that business is showing up very well with his firm, and that collections have picked up in a very satisfactory manner.

J. E. Argus, manager of the mechanical department of The Diamond Rubber Co., came back from the head offices at Akron on June 22. Mr. C. E. Mathewson, Pacific coast manager of this firm, has stirred up some excitement among the rubber tire houses of this city by issuing a general challenge for a rim-fitting contest. It is proposed to allow some disinterested club to arrange the rules for a contest.

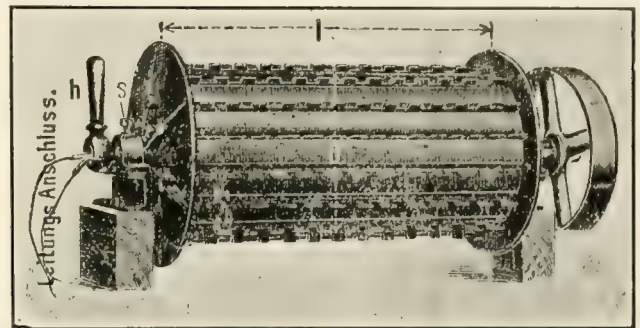
The Pacific Coast Rubber Co. are installing some new sample rooms for the display of rubber footwear and clothing. The principal room adjoins a big show window, so that the entire display can be seen from without as well as from within. Mr. Winslow, the manager, states that the usual order of business is now on with little activity, although he believes that beginning with July there will be considerable doing in the rubber line. The fact that so many new plants are putting in direct connections with electricity is interfering considerably with the activity of the belting business, he said.

THE United States consul at Montevideo reports on the source of the rubber shipped from that port, which he finds comes from Bolivia, some of it being transported more than 600 miles in ox carts, then perhaps 2,000 miles in steamers to Montevideo, whence it goes to Europe. He mentions, but does not name, an American firm which once undertook to collect rubber in Bolivia with Montevideo as a base, and found it a very hazardous business.



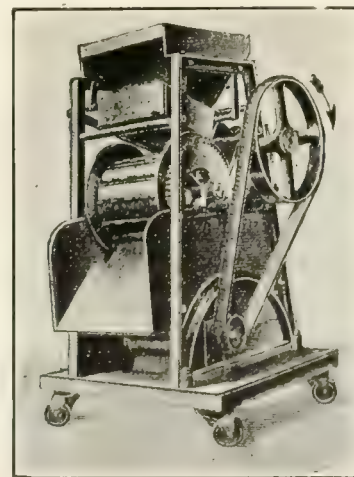
FRICITION CLUTCH DRIVEN RUBBER GRINDER.

[Farrel Foundry and Machine Co., Ansonia, Connecticut.]



"GEIST" ELECTRO MAGNETIC SEPARATOR.

[For removing metal from waste rubber, in reclaiming work. The cut shows the drum, provided with a magnet inside, through which the material is passed.—Plutte, Scheele & Co., London.]



"GEIST" ELECTRO MAGNETIC SEPARATOR.

[A view of the machine driven by a motor; the drum is shown on a smaller scale.]

Two Goodyear endless motor truck tires used on one of the heavy 'buses in Fifth avenue, New York, are reported to have stood up respectively under 21,664 miles and 18,924 miles of usage. These 'buses are heavy vehicles adapted to carrying up to 30 passengers.

News of the American Rubber Trade.

UNITED STATES RUBBER CO.'S BONDS LISTED.

CIRCULAR A-3655 of the committee on stock list of the New York Stock Exchange relates to the listing, on May 27 last, of the \$15,000,000 ten year 6 per cent. collateral trust sinking fund bonds, due 1918, of the United States Rubber Co. The authorization of such bonds to the extent of \$20,000,000, by the shareholders of the company, at a special meeting, was reported in *THE INDIA RUBBER WORLD*, January 1, 1909 (page 152). There have been issued \$15,000,000 to date, the details of which are set forth fully in the Stock Exchange circular, including a list of the collateral upon which the issue is based, and the plans for a sinking fund for their retirement. The trustee is the Central Trust Co. of New York.

A NEW WHITING COMPANY.

WYANDOTTE Whiting Co. is the name of a company who have begun recently the manufacture of a commercial floated whiting at Wyandotte, Michigan. They are selling it to various industries, and particularly to rubber goods manufacturers. It is mentioned as being of a very high grade.

AFFAIRS OF EUGENE ARNSTEIN.

THE creditors of Eugene Arnstein, in bankruptcy, in the United States district court at Chicago [see *THE INDIA RUBBER WORLD*, April 1, 1909—page 261], have confirmed a composition of 40 per cent. in cash on the amount of their claims, said amount having been provided by members of the family of Mrs. Arnstein.

GOING INTO FOREIGN TRADE.

THE B. & R. Rubber Co. (North Brookfield, Massachusetts) have sent Charles B. Griffith, their sales manager, to cultivate trade in Great Britain and on the Continent. The company have made arrangements to ship some of their products to Japan. They were mentioned recently as having contracted to supply one domestic customer with 500 tons of fruit jar rings.

CHANGE OF STYLE.

THE Pittsburgh Rubber Supply Co., organized at the beginning of 1906 by William P. Cowell, who had been a salesman for important mechanical rubber goods houses, will be known hereafter as the Cowell Rubber Co., described in its announcements as "a purely local institution, with mills at Hamilton Square, N. J." The address of the company is corner Eighth and Liberty streets, Pittsburgh, Pennsylvania.

NEW RUBBER SHOE FACTORY AT BRISTOL.

THE Consumers' Rubber Co. (Bristol, Rhode Island), of which Terence McCarty is the head, are now well started in their new line of production, rubber footwear, while continuing busy with insulated wire. They were reported recently to be making 1,000 pairs of shoes daily, and preparations were being made to increase the capacity to 7,000 pairs. The plant occupied by the insulated wire department of the company is that of the old Byfield Rubber Co., while the shoe department is in an adjoining building erected by Mr. McCarty. Additional land has been purchased in close proximity to these buildings with a view to further extensions.

NEW LINE OF INSULATING MACHINERY.

THE Watson Machine Co. (Paterson, New Jersey) announce that in addition to their cordage machinery, which they have manufactured for more than 20 years, they are taking on a complete line of wire stranding, cabling, armoring, insulating and wire rope making machines. They have effected a combination with Mr. Thomas A. Aiton, who has made a specialty of this class of machinery for the past 12 years, in both America and

Europe. Mr. Aiton has entered the firm as general manager, and is giving his special attention to this business.

RUBBER INDUSTRY IN CALIFORNIA.

THE American Rubber Manufacturing Co. (Emeryville, California) are making a full line of mechanical goods—hose; belting, packing and molded work. They specialize in oil belting, having succeeded in producing a superior oil resisting stock. They have taken on the manufacture of rubber-lined cotton fire hose, their first contract for which, of any magnitude, was with the city of San Francisco. Lately they have installed flat and circular looms. The company have done considerable business with the United States government. The officers of the company are: *Archibald Borland*, of Oakland, president of the Summit Construction Co., president; *Allen Knight*, expert accountant, vice-president; *W. Edwin Griffith*, formerly of the California Street Cable Railway Co., secretary and manager; *Henry C. Norton*, formerly of the Pacific Coast Rubber Co., treasurer; *H. A. MacKusick*, formerly of The Diamond Rubber Co., assistant manager; *M. F. Oliver*, formerly with the Bowers Rubber Co., superintendent. The four first named, with George Fredericks, capitalist, constitute the board of directors.

A RUBBER STORE IN SALT LAKE CITY.

THE Hendrie & Stephens Rubber Co., recently incorporated to succeed the mechanical goods and tire dealing firm of Hendrie & Stephens, of Denver, Colorado, have established a branch in Salt Lake City. They carry in Denver and Salt Lake two of the largest stocks in the lines mentioned west of Chicago. They handle exclusively in their territory the lines made by the Republic Rubber Co. (Youngstown, Ohio), specializing on heavy elevator belting and conveyor belts for mining purposes. They also do a large business in packings made by Bowers Rubber Works (San Francisco.) At the beginning of June the company advised *THE INDIA RUBBER WORLD*: "The month just passed was the largest month we have ever had in our business career. Conditions at the present time in the West are very encouraging." W. C. Hendrie is president of the new corporation, and C. E. Stephens secretary and treasurer.

THE BUSINESS OF G. AMSINCK & CO.

THE firm style of G. Amsinck & Co., export and import commission merchants and bankers, of New York, will not be changed by the death of Mr. Amsinck, reported on another page. The business will be continued under the direction of the surviving partners, Adolf Pavenstedt and Justus Ruperti.

The will of Mr. Amsinck, filed for probate on June 19, disposed of an estate valued at several millions of dollars, though the value is not stated in the will. His widow inherits valuable real and personal property, \$1,000,000 in cash, and the income from a \$1,000,000 trust fund established by the will.

RUBBER SHOE TRADE IN CANADA.

THE month has been a very favorable one for the rubber trade [says *The Canadian Shoe and Leather Journal* for June 1]. The weather clerk has mixed things up pretty well, and the rainy season is always a harvest time for rubber dealers. Although the sales for many were perhaps a little above the average, yet the business was by no means large. The manufacturers report orders well up to the mark at the closing date and anticipate a very fair season. The exceedingly strong raw rubber market is causing the trade no little uneasiness, as some will no doubt have to pay much in excess for their raw material than they figured on when quoting prices.



EDWARD R. RICE.

[Connected with the rubber footwear trade since 1872; became connected with the Woonsocket Rubber Co. in 1887; in charge of selling department of the Joseph Banigan Rubber Co., incorporated 1896; since 1901 connected with the United States Rubber Co., of which he is now manager of sales; elected a director of the company at the last annual meeting.]

PLYMOUTH RUBBER CO. TO MOVE.

THE Plymouth Rubber Co. (Stoughton, Massachusetts) were reported recently to be purchasers of a large amount of real estate in the neighboring town of Canton, Mass. THE INDIA RUBBER WORLD is informed that the company purpose removing their plant to Canton. The present plant, developed from very small beginnings, has grown until larger premises are a necessity. The Plymouth company are proofing material for the automobile trade on a large scale, in addition to proofing an extensive line of sheeting and drill for the general wholesale and jobbing trade. Their mold department has also increased extensively, including the manufacture of their widely known "Nerv-Eze" rubber heel. They do a large amount of work in covering rolls, and in making various molded specialties. They have purchased something like 60 acres of land, with water privilege of about 300 HP. The new location is convenient for transportation for Boston and New York, and some new buildings will be erected on it, with a view to increasing their output very extensively. The officers of the company are: A. Syde-man, president and treasurer; W. H. Sydeman (his son) secretary, and J. A. Meade, vice-president and superintendent.

FEDERAL RUBBER CO. (MILWAUKEE, WISCONSIN).

MR. OTIS R. COOK, who has for some years been widely known in the automobile tire trade, was appointed general manager of this company at a meeting of the board of directors on June 8. The management of the interests of the company in New York city and Long Island has been placed in the hands of Mr. D. B. Nally, late of the Continental Rubber Works, who is now located at No. 35 Warren street, New York.

INDUSTRIAL EXPOSITION AT CLEVELAND.

THE Cleveland Industrial Exposition, held under the auspices of the Cleveland Chamber of Commerce, June 7-19, was in many respects a notable enterprise, reflecting great credit upon Cleveland as a city, and the results were most satisfactory to all who were concerned. A large temporary building was erected, in addition to which the Central Armory was occupied. Cleveland has now become the leading industrial city of Ohio, and its numerous industrial concerns lent enthusiastic support to the exposition. The Mechanical Rubber Co. made an exhibit of

their products, which was interesting, both on account of the extent and variety of what it had to offer to the public, and on account of the ornamental and decorative character of the display.

THE NEW FACTORIES AT GRANBY.

A CHARTER has been granted by the government of the Dominion for the Miner Rubber Co., with \$1,000,000 capital, organized by Mr. S. H. C. Miner, whose plans for manufacturing rubber footwear at Granby and Montreal have been reported already in THE INDIA RUBBER WORLD. Mr. Miner will be president of the new company. A charter has also been granted in the name of the Walpole Rubber Co., incorporated for \$250,000, which will manufacture mechanical goods in connection with Mr. Miner's shoe plant. The buildings for the shoe plant are complete and the machinery is being installed. Ground was broken early in June for the Walpole plant, which will adjoin the shoe plant, and in point of size practically duplicate it. These plants are planned to be in operation during the coming winter.

TRADE NEWS NOTES.

THE unique periodical *How*, published "for manufacturers," is not large, but it is exceedingly full of meat. One of the good things in a late issue is an article on "Valuable Wastes," from the pen of Frederick J. Maywald, F. C. S., a consulting engineer of New York, who is becoming widely known in the rubber trade.

Mr. Leon Ekert, of Ekert Brothers, Hamburg, is visiting the United States. This firm are large jobbers in rubber footwear and are the sole consignees for a good part of Europe for the United States Rubber Co. for certain leading brands of rubber boots and shoes. Ekert Brothers are now opening a special sporting goods department.

The McIlroy Belting and Hose Co. (No. 8 South Canal street, Chicago) favor THE INDIA RUBBER WORLD with a photograph of two rolls of Rubber-ite belting, each 2,000 feet, 24 inch, 8 ply, referred to as two of the largest rolls of belting ever turned out of a Western factory.

American Cushion Skate Co., incorporated May 17, 1909, under the laws of Massachusetts, with \$50,000 capital authorized, has for its object the manufacture of ice or roller skates, with cushioning springs between the runner and foot-supporting plates. Wilfred E. Tait, No. 32 Lothrop street, Beverly, Mass., is president, and John J. Heaphy, also of Beverly, treasurer.



WILLIAM E. BARKER.

[Appointed recently merchandise manager of branch stores of the United States Rubber Co., and has since been on a tour of visits to these stores. A native of Lynnfield Center, Massachusetts; resided at Malden since 1873; has had a wide experience in the sale of rubber goods. Was with Aetna Rubber Mills and Para Rubber Shoe Co., and formed Enterprise Rubber Co. (Boston). Divides his time between Boston and New York offices of United States Rubber Co.]

NEW INCORPORATIONS.

THE Hendrie & Stephens Rubber Co., April 24, 1909, under the laws of Colorado; capital \$50,000. Incorporators: W. C. Hendrie, C. E. Stephens and G. W. Rogers. Place of business: Denver, Colo.

Auto Tire Security Co., license issued to open books May 19, 1909, under the laws of Illinois; capital \$35,000. Incorporators: Morris G. Leonard, Raymond D. Penney, and Edward R. Newman. Place of business: Chicago.

Tyson Brothers & Richardson, Inc., May 24, 1909, under the laws of Connecticut; capital \$15,000. Incorporators and directors: Robert E. Tyson (president) and Thomas H. Tyson, Stamford, Conn.; Christopher Richardson (secretary and treasurer), No. 233 West Twenty-third street, New York. To succeed to the business of Tyson Brothers, manufacturers of rubber substitutes, some time at Fairfield, Conn.

Congress Shoe and Rubber Co., June 8, 1909, under the laws of Massachusetts; capital \$100,000. Incorporators: Frederic M. Haynes, Chester J. Pike and William A. Calvert. This corporation succeeds to the business of Haynes, Sparrell & Co., No. 301 Congress street, Boston, at the same address. The business is the selling of the "Shawmut" and "Massachusetts" rubbers and specialties in leather footwear, in New England and northern New York. Mr. Haynes, who is president and treasurer of the new corporation, was for thirty years at the head of the firm Haynes, Sparrell & Co. and its predecessors, and Mr. Pike has been connected with the rubber shoe trade for about the same period.

Automatic Inner Tube Co., June 10, 1909, under the laws of Delaware; capital authorized, \$350,000. Incorporators: Anson M. Bangs and Anson R. Bangs, New York city, and George S. Stiegler, Wilmington, Del.

Chicago Rubber Refining Co., June 7, 1909, under the laws of Illinois; capital, \$5,000. Incorporators: Christian Casselman, E. F. Casselman and Henry Anixter. Place of business, Chicago.

Regal Tire and Rubber Co., June 16, 1909, under the laws of New Jersey; capital authorized, \$250,000. Incorporators: William H. Wilson, Frank A. Kurtz and William C. Reinbold, all of No. 304 Market street, Camden, N. J.

Mechanical Tire Co., June 17, 1909, under the laws of New Jersey; capital authorized, \$500,000. Incorporators: H. O. Coughlan, S. A. Anderson and C. B. Leggett, all of No. 15 Exchange Place, Jersey City, N. J.

Quadruplex Auto Tube Co., May 28, 1909, under the laws of Delaware; capital authorized, \$600,000. Incorporators: Phelon Beale (No. 150 West Forty-seventh street) and Mark D. Nave, New York city; and Gaylord U. Smith, Jersey City, New Jersey. Place of business, Wilmington, Del.

Delaware Steam Packing Co., June 7, 1909, under the laws of Delaware; capital authorized, \$100,000. Incorporators: Harry H. Atherton (No. 414 West Eighteenth street), John J. Downey and Luther H. Leber—all of New York city. Place of business, Wilmington, Del.

Lynn Rubber Cement Co., May 5, 1909, under the laws of Massachusetts; capital authorized, \$2,000. Incorporators: Isaac S. Leadbetter and Lillian B. Leadbetter, Swampscott, Mass.; William A. Daggett, Boston; and Alberta M. McLellan, South Braintree, Mass.

Samuel Cabot, Inc., Boston, a corporation of Massachusetts, dealing in lampblacks and other materials for the rubber trade, have become registered in Illinois under the laws of that State in regard to foreign corporations.

The Health Co., incorporated recently in Rhode Island [see THE INDIA RUBBER WORLD, June 1, 1909—page 334], are established at Providence, with an office in New York. Charles W. Smith is president. They are marketing the "Health," vaginal syringe, patented in 1907 by J. Wallace, of Providence. They do not yet make the rubber parts, but mean to do so later.

UNITED SHOE MACHINERY CO.

THE annual meeting of the United Shoe Machinery Corporation was held at Paterson, New Jersey, on June 12. The corporation holds the shares of the United Shoe Machinery Co., the net earnings of which for the year ended February 28 were \$4,796,971, or more than for the preceding year, in spite of the business depression. The cash dividends were \$2,425,926. The number of machines out on lease in the United States on March 1, 1909, was 70,353, an increase for the year of 4,844, or about 7½ per cent.

RUBBERS AT THE BOSTON SHOE FAIR.

PREPARATIONS have been completed for the opening at Boston, on July 1, of the First World's Shoe and Leather Fair, in a building constructed for the purpose, on the Cambridge side of the Charles river. This exhibition is not to be a fair in the sense of a mere display, but in the original sense of a market fair where buyers, and especially buyers, can come from a distance and examine in one place the goods of many sellers. The United States Rubber Co. are entered as exhibitors—not with a view to making a complete display of their various lines, which would call for a great deal of space and involve much duplication—but rather of a few special features from their various factories, including their line of export goods, colored goods, tennis, and so on. They will pay some attention also to their miscellaneous lines, such as clothing and druggists' sundries.

The shoe machinery exhibit by the United Shoe Machinery Co. will consist of a complete outfit of machines that will turn out shoes every day of the exhibit. Leather-making machinery will likewise be in operation.

"GUMMON"—A NEW INSULATING MATERIAL.

THE Dickinson Manufacturing Co. (Springfield, Massachusetts), formerly the Dickinson Hard Rubber Co., are referred to as producing a new insulating compound, under the name "Gummon," which will withstand a heat of 500° F., has great dielectric strength, and is oilproof, waterproof and acidproof. By the way, Charles L. Hotchkiss, formerly treasurer and manager of the Dickinson company, is mentioned as now a resident of the City of Mexico, and connected with the Mexican Electric Vehicle Co. Frederick Harris is now president of the Dickinson Manufacturing Co., Robert C. Cooley treasurer, and Kurt R. Sternberg general manager.

TRADE NEWS NOTES.

THE trustees of Yuba City, California, have awarded a contract for fire hose and a hose cart to the New York Rubber Co.

The long established house of Cutler & Porter Co. (Springfield, Massachusetts) have taken the agency of their territory of the Apsley Rubber Co., of Hudson.

The E. F. Smith Co. (Naugatuck, Connecticut), mentioned recently [see THE INDIA RUBBER WORLD, May 1, 1909—page 299] as having been incorporated to make goods of metal and rubber, advise that they have not yet made any rubber goods.

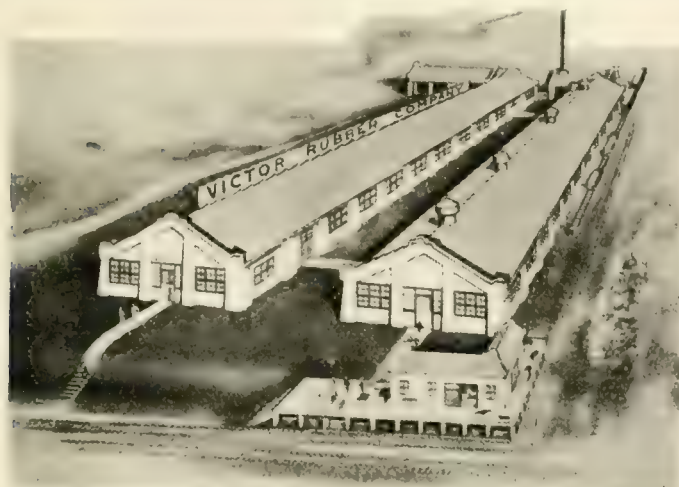
W. D. Allen Manufacturing Co. (Chicago) report a constantly increasing output of the Bowes Pin Hose Rack since the patent controversy regarding the same has been settled. Among recent orders are several large contracts from the Pacific coast from the jobbing houses in San Francisco, and a contract for the fine new La Salle Hotel, now being erected in Chicago.

Seattle Sporting Goods Co. (Seattle, Washington) have absorbed The Rubber Store, at No. 714 First avenue, and the combined business will be carried on at this address. F. S. Clewley is president and manager under the new arrangement, and Dunn Stewart secretary and treasurer.

The Standard Underground Cable Co. are mentioned as having closed contracts for supplying the Pennsylvania Tunnel and Terminal Co., at New York, with 100,000 feet of duplex, rubber insulated and lead-covered cable—aggregating 66.3 miles in length.

THE VICTOR RUBBER CO.—NEW FACTORY.

THE new plant of the Victor Rubber Co. (Springfield, Ohio), succeeding that which was burned last year, is now practically complete. Part of it has been in operation since February. The new plant is of concrete, one story high, laid out in such a manner that additions can be laid out without departing from the general plan. As the building stands, the capacity is about double the old plant. The equipment of machinery is of the most modern type. The multiple presses are operated by a system of low and high pressure hydraulic accumulators, which are fed automatically, the operators controlling the presses by a sys-



NEW PLANT OF VICTOR RUBBER CO. (SPRINGFIELD, OHIO.)

tem of valves. The power plant includes a 400 HP. Hamilton-Corliss tandem compound condensing engine, and boilers of the Heine water tube type. The factory is convenient to three railway lines, and is only ten minutes from the center of the city.

DIVIDENDS DECLARED.

THE board of directors of Rubber Goods Manufacturing Co. on June 2 declared the forty-first regular quarterly dividend of $1\frac{3}{4}$ per cent. on their preferred stock, from earnings, payable June 15.

The directors of the Boston Woven Hose and Rubber Co. declared a regular quarterly dividend of \$2 per share on the common stock, payable June 15, 1909. The dividends on the common stock are to be paid quarterly instead of semi-annually hereafter.

The directors of Canadian General Electric Co., Limited, declared the quarterly dividend of $1\frac{3}{4}$ per cent., payable July 1.

Boston Belting Co. will pay the regular quarterly dividend (No. 159) of \$2 per share on July 1 to stockholders of record June 15.

The Canadian Consolidated Rubber Co., Limited, have declared an initial quarterly dividend of 1 per cent. on the common stock, also the regular quarterly dividend of $1\frac{3}{4}$ per cent. on the preferred stock, payable July 2 to holders of record June 28.

CANADIAN MINERAL RUBBER CO.

THERE was issued recently in London £170,000 [= \$827,305] 6 per cent. first mortgage debenture stock of the Canadian Mineral Rubber Co., Limited, incorporated under the laws of the Dominion with an authorized capital of \$1,500,000, of which \$200,000 in 6 per cent. preferred stock and \$800,000 common stock have been issued. The debentures mentioned are part of a certain authorized issue to be secured by a first mortgage on certain valuable gilsonite and bituminous limestone mines in the state of Utah, and all the issued shares of the American Asphaltum and Rubber Co., of Chicago. The principal products of the company are insulating compounds

for electric wires, battery bells and the like; pipe coatings; floor mastic for floors and courtyards; street pavements such as have been laid in Chicago, Cleveland, Pittsburgh, and other American cities; asphalt fillers for reservoirs and other like construction; and roofing material. One of the directors of the Canadian company is J. F. Hill, president of the American Asphaltum and Rubber Co., and the other members of the board are residents in Canada. It is stated that the proceeds of the new issue are to be devoted to pushing the business of the company in Canada and Mexico.

TRADE NEWS NOTES.

AN offering of securities at public auction in New York on June 16 included 250 shares of Apsley Rubber Co. (Hudson, Massachusetts), which realized \$100 per share.

Non-Puncture Inner Casing Co., May 1, 1909, under the laws of California; capital, \$10,000. Incorporators: Isaac Andrews, William H. Council and Clyde Welsh.

Creditors of Richard H. Probert, sometime manufacturer of rubber machinery at Akron, Ohio, were notified by the referee in bankruptcy to appear on June 26 to receive his final report in the matter.

The Brockton Die Co. (Brockton, Massachusetts) have established a branch at Nos 149-151 Huron street, Chicago, for the accommodation of their Western trade. It is under the management of J. Headsten.

Three suits for \$10,000 damages each have been filed against F. N. Taylor, of Fairfield, Nebraska, by three officials of the Peru-Pará Rubber Co., with offices at No. 53 Clark street, Chicago. They allege that Taylor in a circular sent out to shareholders of the company made false charges of mismanagement of the company's property in South America.

MR. J. G. WHITELEY KNIGHTED.

MR. JAMES GUSTAVUS WHITELEY, of Baltimore, who, since 1904, has filled the position first of consul and later of consul-general of the Congo Free State in the United States, has been made a knight of the Royal Order of the Crown by King Leopold, in recognition of his past services and as a mark of his Majesty's esteem. Cardinal Gibbons was decorated with the same order by King Leopold about a year ago. Since the Congo has been annexed by Belgium as a colony Mr. Whiteley's official functions have ceased, but he is still connected with various Congo concessionaire companies and will be engaged unofficially in the development of the Congo. He is a director in the Société Internationale Forestière et Minière du Congo, one of the Congo companies in which American capital is interested.

**BATEMAN—MAGOWAN.**

AT Trenton, New Jersey, on June 5, Miss Elizabeth L. Magowan, daughter of ex-Mayor Frank A. Magowan, was married to Henry T. Bateman, of Philadelphia. The ceremony was performed by the Rev. Hugh B. MacCauley, pastor of the Fourth Presbyterian Church. The bride was given in marriage by her brother, Frank A. Magowan, Jr.

PERSONAL MENTION.

MR. WILLIAM H. MOORE, one of the new directors of the United States Rubber Co., has long been an enthusiastic supporter of horse shows in America. During the past month he headed the list of winning owners at the International Horse Show in London, and was summoned by the King to receive his congratulations. The team driven by Mr. Moore was second in the coaching Marathon, in connection with the horse show, on June 14. Mr. Moore's private stable is one of the most notable in New York.

GENERAL SUPERINTENDENT PIPER.

MR. WILLIAM E. PIPER has been made general superintendent of the factories of the Boston Rubber Shoe Co., succeeding Mr. John Robson, who retires after a connection with the company of forty-one years. Mr. Piper is a native of Hyde Park, Massachusetts. He was graduated from the high school in that town



WILLIAM E. PIPER.

and also from the Massachusetts Institute of Technology (class of '94) with the degree S. B. He was appointed chemist of the Boston Rubber Shoe Co. a year later, assistant superintendent in May, 1897, and superintendent in March, 1906.

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for five weeks, ending June 26:

COMMON STOCK.

Week May 29...	Sales 5,100 shares	High 39½	Low 37¾
Week June 5...	Sales 12,900 shares	High 42½	Low 38½
Week June 12...	Sales 7,150 shares	High 42	Low 40½
Week June 19...	Sales 3,400 shares	High 40½	Low 38
Week June 26...	Sales 1,700 shares	High 38½	Low 38

For the year—High, 42½, June 4; Low, 27, Feb. 24.
Last year—High, 37½; Low, 17½.

FIRST PREFERRED STOCK.

Week May 29...	Sales 4,600 shares	High 112	Low 111¾
Week June 5...	Sales 8,660 shares	High 117¼	Low 112
Week June 12...	Sales 8,300 shares	High 118¾	Low 116½
Week June 19...	Sales 2,230 shares	High 117½	Low 114¾
Week June 26...	Sales 2,300 shares	High 116¼	Low 115

For the year—High, 118¼, June 7; Low, 98, Jan. 29.
Last year—High, 108; Low, 76.

SECOND PREFERRED STOCK.

Week May 29...	Sales 2,000 shares	High 79½	Low 78½
Week June 5...	Sales 6,000 shares	High 85	Low 79
Week June 12...	Sales 1,790 shares	High 84	Low 82
Week June 19...	Sales 1,110 shares	High 84	Low 82½
Week June 26...	Sales 600 shares	High 83	Low 82½

For the year—High, 85, June 4; Low, 67½, Feb. 25.
Last year—High, 75½; Low, 42.

SIX PER CENT. CERTIFICATES.

Week May 29...	Sales 100 certs.	High 104½	Low 104¾
Week June 5...	Sales 137 certs.	High 104½	Low 104¾
Week June 12...	Sales 146 certs.	High 105	Low 104½
Week June 19...	Sales 84 certs.	High 105¼	Low 105
Week June 26...	Sales 79 certs.	High 105	Low 104½

CHANGE OF NAME OF COMPANY.

THE board of directors of the Trenton Rubber Manufacturing Co. have changed the name of the corporation to *Thermoid Rubber Co.* One reason is that the old title was a misnomer, since

the factory is not actually located in Trenton, but in Hamilton township, near that city. It is thought that by having a more distinctive title for the company than one based upon the name of a locality its products may also be given greater individuality. The company express the conviction that the name "Thermoid" will become a synonym of "best" in all mechanical rubber goods.

FIRE IN A RUBBER FACTORY.

PART of the works of the Trenton Rubber Manufacturing Co., located in Hamilton township, just east of Trenton, New Jersey, was destroyed by fire early on the morning of June 26. The portion destroyed was that known as the old part. Good service was rendered by the company's fire apparatus, which had the assistance of the Trenton fire department and the fire equipment of the Pennsylvania Railroad shops nearby. The departments damaged were those used for the manufacture of pneumatic and solid tires, rubber reclaiming and pressed goods. The main portion of the mill was saved, embracing the power plant, mill and calender rooms, hose and belt departments, receiving and shipping departments, goods warehouse, and chemical laboratory. The factory was closed only during the day of the fire. Temporary equipment was installed for some departments and with very few exceptions goods have been manufactured, orders filled, and the entire business conducted without interruption. It is stated that the inventory in progress will show a loss probably not exceeding \$40,000 or \$50,000. Orders have been placed for new machinery, and plans are under way for the erection of a large fireproof, concrete and steel building, to replace the burnt departments, and while about it the company decided to materially increase the size of their plant by putting up a building 100 x 120 feet, two or three stories high, which will give employment to 75 or 100 additional men, when completed. The name of the company, by the way, has just been changed to Thermoid Rubber Co.

BOSTON BELTING CO.

THERE has been no change as yet of officers of the Boston Belting Co. in consequence of the death of President Forsyth, reported on another page of this issue. At a recent meeting of the board Thomas A. Forsyth was chosen as a director to fill the vacancy caused by the death of his brother. Francis H. Stevens continues to be president *pro tem*, and this organization is expected to continue until the annual meeting, late in the year.

NEW ENGLAND RUBBER CLUB—OUTING.

THE yearly midsummer outing of the New England Rubber Club is scheduled for Tuesday, July 13. Arrangements have been made for securing for this purpose the Riverside Recreation Grounds, in Weston, on the Charles river. The program will include golf, baseball and other games, and water sports, followed by a banquet in the evening.

MEXICAN RUBBER BURNED.

RECENT forest fires in the hot country of Vera Cruz and Oaxaca have been more destructive than any within the memory of people living in the sections affected; according to reports which come out of the rubber planting districts. There had been no rain for several months, and the undergrowth on plantations was parched and dry. Not only have many rubber trees been injured or destroyed which were nearing a tappable age, but much sugar cane has been burned, and even timber has been injured. For the most part the full details of losses have not reached the headquarters in the United States of the various rubber planting companies, but the hope is entertained that the losses were less serious than indicated in the reports telegraphed from Mexico. The belief seems general that even where rubber fields have been swept by the fire, the roots of the trees will be found alive and that new vigorous trees may be expected to grow up from these.

Rubber Lined Cotton Fire Hose.

THERE was a time when rubber-lined cotton fire hose was produced by coating one side of a flat woven fabric, similar to a cotton belt fabric, with rubber, and afterward riveting the edges together so as to make a hose tube. Later, the same kind of hose was made by riveting the edges of uncoated fabric, lining the fabric tube so produced by drawing a rubber tube through it, and steaming the two tubes together.

Earnest endeavors were made to produce a rubber-lined cotton fire hose with the aid of seamless multiple fabrics woven on straight looms. But difficulties of producing a satisfactory hose fabric tube which would sustain high pressures by weaving it in an unnatural flat form were found to be inherent in the process, and when circular woven fabrics appeared the flat hose process was abandoned.

When the "Eureka" circular woven hose was brought out the patents on such fabrics were infringed by parties who claimed that the patents were invalid, on the ground that as seamless multiple fabrics had been produced on straight looms, no invention was required to produce similar fabrics on a circular loom. After comparing the merits of the two methods of producing seamless fire hose fabrics—namely, by weaving in expanded form such as hose assumes when in use, or in flat form, so that fabric is necessarily distorted when in use—a United States circuit court decided that the circular method of weaving was so far superior to the flat that the advantages entitled the inventor "to the benefits of all good results," and (to quote from the decision) "that this is considerable is evidenced by the fact that fire hose thus constructed has driven all the older forms from the market." The victory of the circular method was so complete that there were no more efforts to produce a flat woven, multiple hose fabric for many years.

In October, 1875, a section of Eureka fire hose was tested to 700 pounds without injury—a strength before unknown in fire hose—and immediately after a similar section was submitted with a proposal to supply 5,000 feet to the New York fire department. As the facilities of the company at that time were limited, the proposal was made for but 5,000 feet, though the department had advertised for a larger amount, but the advantages of the hose over the leather, riveted cotton, and rubber hose then in use were so evident that not only was the 5,000 feet ordered, but additional orders were given for Eureka with sufficient time allowance to permit of its production. The reputation of Eureka hose was at once established.

In 1876, after an investigation of the merits of various kinds of fire hose, a special board of naval officers recommended that "Paragon" hose, a hose similar to Eureka except that it is of one ply less, should be adopted as the navy department standard. As a result Paragon was used exclusively by the navy department until 1885, when it was represented to the government that one maker should not have a monopoly of naval hose trade, and the business was thrown open to public bidding. During the nine years that Paragon was supplied there was no complaint whatever from the department of unsatisfactory hose—a condition which has not always prevailed since.

Eureka and its companion Paragon since 1875 have gone into all sections of the United States and Canada, and the name "Eureka" is well and favorably known in various parts of Central and South America, and of Europe, Asia, Africa and Australia. Hose of the same make is also extensively used by railroads and other large corporations. Not only have these brands been used so extensively, but by reason of their cost of manufacture and superior quality have brought good prices, proving that it was merit and not initial cheapness that brought the demand.

In 1903 appeared the first so-called "high grade" fire hose specification of the New York fire department, and with the advent of such specification came an era of trouble with hose in the department. This specification imposed as a condition that a piece of rubber tubing 2 inches long should be capable of stretching to 14 inches; then when immediately released and a new 2 inches marked, this 2 inches should stretch to 14 inches, and after being held for ten minutes and released, the marks should return within ten minutes to within $2\frac{1}{8}$ inches of each other. In more or less modified forms those requirements continued for several years. When the first specification referred to was issued the Eureka Fire Hose Manufacturing Co. wrote concerning it:

We have received the New York hose specifications. The rubber specification is extraordinary. It does not seem fair that hose makers should be required to guarantee hose for a term of years, and yet to put into it linings in which they lack confidence. To produce the extraordinary degree of elasticity and resilience that this specification demands, considerations of durability and adaptability of the rubber for hose lining purposes must be made subservient to the necessity of producing tubes that will comply with excessive laboratory requirements. . . . To meet the requirements of the New York specification will lead to no gain in quality, and indeed, to the probability of a decrease in durability, beside which we would be using a tube which has never withstood the test of long and severe service, and about the lasting qualities of which we would therefore know comparatively little.

This letter may now be considered historic, as it was prophetic at the time of its issue. It is a fact that most of the criticisms of hose supplied by leading manufacturers to the New York fire department under the so-called high grade specifications were caused by the compliance of such manufacturers with arbitrary and unpractical requirements—a compliance that invariably increased the cost of producing the hose with injury to the product. The original belief of hose manufacturers, with a rubber lining tube, no matter how good the quality of rubber compound may be, is liable to be injured by a vulcanization that will insure a strict compliance with stretch and return requirements that existed for several years in New York department specifications, is confirmed by the experience of the department with rubber linings made to conform to that specification.

If a manufacturer, rather than to decline bidding for hose contracts in the New York department, consented, no matter how reluctantly, to furnish hose under such specifications, he was of course, legally responsible for any defects that might develop, even though they were directly due to strict compliance with terms of specification that such manufacturer had protested against, but certainly there is some question as to his moral obligation, especially when it is considered that he would have preferred to furnish hose that he knew to be right, and which would have brought him credit instead of criticism, and which would also have cost less to produce than the hose which he was compelled to furnish by specification requirements.

When it is sometimes claimed that rubber fire hose possesses certain advantages over cotton hose, it evidently is forgotten that the hose most largely used in the best fire departments prior to the introduction of Eureka hose was rubber, and that it was chiefly in competition with rubber hose that Eureka made its success during its earlier years; and also that Eureka was received and used with equal favor in the warm weather of the South and the cold, wintry seasons of the North. It was certainly not simply because "the rubber hose cost appreciably more than cotton rubber lined hose" that rubber hose was so largely superseded, for in those early days Eureka was a high-priced hose. The rubber hose of those times, it may be added, was generally a first class article of its kind, made by manufacturers who aimed to produce the best hose that could be produced.

With regard to other forms of cotton hose than a multiple woven fabric—which is composed of two or more plies so distinct as to permit the removal of one without injury to another, and yet are all woven together into a solid homogeneous fabric—it is not possible, even with the best machinery, to secure such uniformity of separately woven fabrics as is regularly secured by weaving all plies simultaneously by one operation of the loom. In the case of the solid woven hose in case the other ply becomes cut, the edges are bound down to the inner ply and do not readily fray out. Again, the binder warps of solid woven hose serve to carry any dampness that there may be in the inner ply to the outer surface, thereby accelerating the drying of the hose.

Some years ago a prominent fire chief expressed surprise at the extent of the plant employed by the Eureka Fire Hose Manufacturing Co. for the antiseptic treatment of hose, and the proof, which the great cost of maintaining such a plant affords, that the company does not consider the antiseptic treatment of hose merely a talking point for salesmen. The company's antiseptic department occupies more than 20,000 square feet of floor area; it has an extensive equipment of dry rooms, and machines and appliances for handling the hose during the processes, and employ a considerable force, night and day, to do its work. It consumes a large amount of expensive materials. The company antiseptically treats all of its fire hose.

The process employed by this company protects the fabric by removing the elements within the cotton that tend to its decay, so that fabrics treated by it are softer and lighter than before treatment, in contrast with some so-called waterproof and antiseptic treatments, which not only stiffen the fabrics, but add to their weight by saturating them with a lot of low-priced materials. More than 34 years' trial of the Eureka processes have demonstrated that hose receiving ordinary fire department care is effectually protected by them against rot and mildew.

A CRUDE RUBBER LAWSUIT.

A CASE decided recently in the supreme court of New York—a suit brought by an importer of rubber against a manufacturer, to enforce a contract for the sale of raw material—embodied some points of a nature to be of interest to the trade generally. The case was tried before a jury, which gave a verdict for the plaintiff. Counsel for the defendant moved to have the verdict set aside, when the judge called for briefs, rendering some weeks later a decision in which the motion was denied.

The defendant questioned the jurisdiction of the court in a case involving a "foreign" corporation, and both parties to this action were corporations of other states. The court construed

the New York statute differently, however, and was guided by precedents, involving cases where one or both litigants were foreign corporations.

The court's jurisdiction was further questioned on the ground that if any contract did exist for the sale of rubber in this case, it was not made within New York, and that any action growing out of such contract should be in the state where it was made. The court held that this action did not grow out of the *making* of the contract, but out of its *breach*, which occurred in New York. The plaintiff contracted to deliver 15 tons of rubber "ex dock, New York," and the failure of the defendant to accept it there constituted a breach of contract. Where the contract was made was immaterial.

A further claim of the defendant company was that its official alleged to have made the contract in question—though president of the corporation—lacked authority to purchase supplies without the coöperation of the treasurer, this being one of the provisions of the corporate by-laws. Counsel for the plaintiff said, in his brief:

The general understanding in the business world, to-day, is that the president of a corporation, in the absence of specific notice to the contrary, may be regarded as possessing such authority to bind his company as the name of his office would naturally lead one to suppose he possessed. He is generally regarded as being at the head of the company.

The brief quoted from a decision confirmed by the New York court of appeals in which it was held:

It is well settled that a business corporation cannot by its by-laws so limit the power of its executive officers that the corporation shall not be liable for ordinary engagements made by such officers in the transaction of the company's business with those who have no knowledge of such limitation - - - and in the absence of express notice, a person dealing with such corporation is entitled to assume that in the ordinary transaction of its business the president is authorized to act for it and the corporation is liable for contracts made in the conduct of its business.

The court in the case under review decided in accordance with this precedent.

The style of contract submitted by the plaintiff company as the basis of its action was that customary in the sale of crude rubber in the United States, in which the importer or broker, on a printed form, delivers to the buyer a memorandum of the grades and amount sold, price, and conditions of delivery and payment. It is not usual for the buyer to confirm such contract, but the defendant asserted that in the absence of such confirmation no legal contract existed. The court held, however, that the memorandum of sale referred to, together with certain correspondence which ensued in this case, constituted a valid contract, no particular form being essential.

SEND for Index (free) to Mr. Pearson's "Crude Rubber and Compounding Ingredients."

Review of the Crude Rubber Market.

THE entries at the port of Pará for the crop year which ends with this date, of rubber of all grades (including caucho), appear to have been as large as in any former year, if not exceeding all records. The figures for the last year are available only to June 28, and it is possible that the remaining days of the month brought into Pará enough rubber to bring the total for the twelve months up to or beyond the record figure of 1906-07. The official returns for several years past have been—

1901-02	.....tons	30,000	1905-06	.....tons	34,490
1902-03	.....	29,850	1906-07	.....	38,005
1903-04	.....	36,580	1907-08	.....	36,650
1904-05	.....	33,060	1908-09	.....a	37,970

[a—To and including June 28.]

Whatever interest these figures may possess from any other point of view, they afford no guide to the tendency of prices from

year to year. Else the large production of the past season might indicate a decline in prices, whereas the quotations at this date are far above those reported at any other period in the history of the trade. While on the subject of the production of the Amazon regions, one suggestion that has been heard may have some pertinence, namely, that the steady advance in the consuming markets for some months past has stimulated shipments from the *seringaeas* to such an extent as to leave smaller stocks than usual upriver. In this event the trade will be obliged to depend wholly upon stocks already shipped from the Amazon while awaiting the next crop, the first returns from which are not due much before the end of summer.

As this paper goes to press cables from London indicate prices there as high as 6s. 3½d. @ 6s. 4d. [= \$1.54] for Pará rubber, and as high as 7 shillings [= \$1.70.3] for plantation, smoked.

Following are the quotations of New York for Pará grades, one year ago, one month ago, and June 29—the current date:

PARÁ.	July 1, '08.	June 1, '09.	June 29.
Islands, fine, new.....	87 ^a 88	131 ^a 132	140 ^a 141
Islands, fine old.....	none here	132@133	143@144
Upriver, fine, new.....	93@ 94	134@135	147@148
Upriver, fine, old.....	95@ 96	135@136	149@150
Islands, coarse, new.....	44@ 45	66½@ 67	68@ 69
Islands, coarse, old.....	none here	70@ 71	71@ 72
Upriver, coarse, new.....	64@ 65	98@ 99	104@105
Upriver, coarse, old.....	none here	none here	none here
Cametá	77 ^a 78	80 ^a 81	80 ^a 81
Caucho (Peruvian), ball..	50@ 51	87@ 88	94@ 95
Caucho (Peruvian), sheet..	62@ 63	76@ 77	80@ 81
Ceylon (plantation), fine sheet	103@104	135@136	155@156

AFRICAN.

Popori ball, prime....110@111	Massai, red	106@107
Lopori strip, prime... —@ —	Soudan niggers	101@102
Aruwimi	Cameroon ball	74@ 75
Upper Congo ball, red.104@105	Benguela	67@ 68
Ikelemba	Madagascar, pinky ...	98@ 99
Siera Leone, 1st quality	Accra flake	22@ 23

CENTRALS.

Esmeralda, sausage .. 90@ 91	Mexican, scrap	89@ 90
Guayaquil, strip	Mexican, slab	65@ 66
Nicaragua, scrap 87@ 88	Mangabeira, sheet ...	61@ 62
Panama	Guayule	34@ 35

EAST INDIAN.

Assam	95 ^a 96	Borneo	35 ^a 45
Pontianak	44@		

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	6\$900	Uprivers, fine	8\$000
Islands, coarse	3\$000	Upriver, coarse	5\$500
		Exchange	15½d.

NEW YORK RUBBER PRICES FOR MAY (NEW RUBBER).

	1909.	1908.	1907.
Upriver, fine	1.26@ 1.35	.83 ^a .94	1.12@ 1.16
Upriver, coarse .....	.96@ .98	.58@ .65	.88@ .92
Islands, fine	1.23@ 1.31	.80@ .90	1.10@ 1.15
Islands, coarse .....	.50@ .67	.43@ .48	.62@ .67
Cametá .....	.69@ .78	.48@ .57	.70@ .72

NEW YORK RUBBER PRICES FOR APRIL (NEW RUBBER).

	1909.	1908.	1907.
Upriver, fine	1.21@ 1.26	.78@ .84	1.15@ 1.18
Upriver, coarse .....	.92@ .96	.55@ .58	.91@ .94
Islands, fine	1.18@ 1.23	.75@ .80	1.14@ 1.16
Islands, coarse .....	.56@ .59	.42@ .44	.66@ .68
Cametá .....	.63@ .69	.44@ .48	.71@ .72

New York.

In regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street, New York), advises as follows: "The demand for commercial paper has continued good during June, but the supply in the rubber line has been rather limited, and the best names have sold at 4¼@4¾ per cent., and those not so well known at 5@5½ per cent.

Rotterdam.

THE new supply of Congo rubber, mentioned in our last report, has arrived and been placed on the market. The same consisted of about 18,500 kilograms Upper Congo and about 2,500 kilograms Congo of various grades and was sold on June 2 by public inscription. There was an active demand, a large number of firms made bids and the competition was keen, all the lots being taken at prices averaging from 3 to 4 per cent. above the appraised value. Two small lots Java plantation rubber, total weight 650 kilograms, of good but not quite prime quality, were offered at the same time and found purchasers at about 10 per cent. above their appraised value. A further lot of about 600 kilograms of somewhat inferior quality will be placed on the market on the 9th.

Balata.—Some Surinam leaf, spot goods, changed hands, and the old crop season can now be considered exhausted. The first small arrivals of the new crop, shipped under contract, are expected within the next few days. There were no arrivals of Venezuela block.

A. KNOTTENBELT & CO.

Rotterdam, June 8, 1909.

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total 1909.	Total 1908.	Total 1907.
Stocks, April 30...tons	384	159	543	357	277
Arrivals, May	554	508	1062	1506	1175
Aggregating	938	667	1605	1863	1452
Deliveries, May	816	605	1421	1493	1083
Stocks, May 31.....	122	621	184	370	369

PARÁ.

ENGLAND.

	1909.	1908.	1907.	1909.	1908.	1907.
Stocks, April 30.....tons	935	1040	510	720	2005	950
Arrivals, May	1370	1955	1765	830	700	910
Aggregating	2305	2995	2275	1550	2705	1860
Deliveries, May	1750	2360	1670	950	1110	800

Stocks, May 31.....	555	635	605	600	1595	1060
World's visible supply, May 31.....tons				1909.	1908.	1907.
Pará receipts, July 1 to May 31.....				29,040	28,420	30,460
Pará receipts of Caucho, same dates....				7,540	6,370	5,960
Afloat from Pará to United States, May 31				481	750	498
Afloat from Pará to Europe, May 31....				542	424	835

African Rubbers.

NEW YORK STOCKS (IN TONS).

January 1, 1908.....	156	October 1, 1908.....	134
February 1.....	224	November 1.....	134
March 1.....	123	December 1.....	179
April 1.....	201	January 1, 1909.....	156
May 1.....	165	February 1.....	157
June 1.....	446	March 1.....	200
July 1.....	334	April 1.....	178
August 1.....	145	May 1.....	268
September 1.....	133	June 1.....	156

Liverpool.

WILLIAM WRIGHT & Co. report [June 1]:

Fine Pará.—With declining receipts and more trade demand, especially from America, a large business has been done at advancing prices, and the price of fine has advanced fully 3½d. per pound. All present appearances point to a still further advance in values, as the Manao's price is above the parity of price ruling here, with an active demand. New York is also strong and active. Until the receipts of the new crop make themselves felt, there does not seem much likelihood of any decided fall in values.

Rubber Receipts at Manao's.

DURING April and ten months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

	APRIL.			JULY-APRIL.		
	1909.	1908.	1907.	1908-'9.	1907-'8.	1906-'7.
Rio Purús-Acre	545	432	634	8,411	8,561	7,880
Rio Madeira	141	302	318	2,935	2,808	3,273
Rio Jurua	280	541	871	3,966	3,930	4,633
Rio Javary-Iquitos	66	72	115	2,414	2,496	2,811
Rio Solimões	35	29	48	980	1,107	903
Rio Negro	72	100	77	555	541	603
Total	1,169	1,476	2,063	19,261	19,533	20,103
Caucho	781	792	753	5,820	5,439	4,588
Total	1,950	2,268	2,816	25,081	24,972	24,691

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for car-load lots, per pound—show an advance since last month:

Old rubber boots and shoes—domestic.....	9½@ 9¾
Old rubber boots and shoes—foreign.....	9½@ 9¾
Pneumatic bicycle tires	6¾@ 6½
Automobile tires	6¾@ 6½
Solid rubber wagon and carriage tires.....	7 @ 7½
White trimmed rubber	9½@ 10
Heavy black rubber	5¾@ 6¼
Air brake hose	4¾@ 4½
Garden hose	28½@ 23½
Fire and large hose	3½@ 3½
Matting	1½@ 1½

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

MAY 25.—By the steamer *Horatio* from Manáos and Pará:

IMPORTERS.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.
New York Commercial Co.	149,600	30,800	50,600	1,700 =	232,700
General Rubber Co.	20,300	5,400	42,900	33,300 =	101,900
Poel & Arnold.	32,300	2,200	21,900	23,400 =	79,800
C. P. dos Santos.	34,600	4,600	9,400	8,400 =	57,000
Hagemeyer & Brunn.	21,100	1,800	31,700	..... =	54,600
A. T. Morse & Co.	10,700	.....	33,000	..... =	43,700
Edmund Reeks & Co.	.....	.....	17,800	..... =	17,800
TOTAL	268,600	44,800	207,300	66,800 =	587,500

JUNE 4.—By the steamer *Demstan*, from Manáos and Pará:

Poel & Arnold.	204,500	95,800	96,700	49,600 =	446,600
New York Commercial Co.	134,700	32,900	61,100	12,200 =	240,900

General Rubber Co.	66,100	13,600	67,700	4,900 =	152,300
A. T. Morse & Co.	17,500	.....	69,300	15,800 =	102,600
Hagemeyer & Brunn.	8,200	.....	53,500	..... =	61,700
C. P. dos Santos.	32,200	7,700	2,000	..... =	41,900
Edmund Reeks & Co.	6,100	1,800	10,600	..... =	18,500
TOTAL	469,300	151,800	360,900	82,500 =	1,064,500

JUNE 14.—By the steamer *Cearense*, from Manáos and Pará:

Poel & Arnold.	156,900	72,900	106,700	16,900 =	353,400
New York Commercial Co.	82,600	24,500	38,900	158,200 =	304,200
Hagemeyer & Brunn.	26,900	3,800	160,000	..... =	190,700
A. T. Morse & Co.	68,900	6,000	94,400	..... =	169,300
General Rubber Co.	300	1,400	51,800	300 =	53,800
C. P. dos Santos.	28,000	6,100	2,300	..... =	36,400
Edmund Reeks & Co.	3,600	300	14,500	..... =	18,400
Crossman & Van Sicklen.	5,100	3,300	1,800	..... =	10,200
TOTAL	372,300	118,300	470,400	175,400 =	1,136,400

PARA RUBBER VIA EUROPE.

MAY 29.—By the <i>Campania</i> —Liverpool:	POUNDS.
New York Com. Co. (Fine)	33,000
New York Com. Co. (Coarse)	9,000
Livesey & Co. (Coarse)	22,500
Poel & Arnold (Coarse)	11,000
75,500	
MAY 27.—By the <i>Majestic</i> —London:	
Poel & Arnold (Coarse)	22,500
22,500	
JUNE 1.—By the <i>Joachim</i> —Mollendo:	
W. R. Grace & Co. (Cauchó)	13,500
13,500	
JUNE 1.—By the <i>Minnetonka</i> —London:	
General Rubber Co. (Coarse)	45,000
45,000	
JUNE 2.—By the <i>Caronia</i> —Liverpool:	
Poel & Arnold (Fine)	44,500
New York Com. Co. (Fine)	13,500
Poel & Arnold (Coarse)	107,000
165,000	
JUNE 3.—By the <i>Caracas</i> —Bolívar.	
General Export Co. (Fine)	40,000
40,000	
JUNE 4.—By the <i>Lusitania</i> —Liverpool:	
New York Commercial Co. (Fine)	28,000
28,000	
JUNE 4.—By the <i>Lincoln</i> —Hamburg:	
Poel & Arnold (Coarse)	22,500
22,500	
JUNE 7.—By the <i>Cedric</i> —Liverpool:	
New York Com. Co. (Fine)	80,000
New York Com. Co. (Coarse)	22,000
Poel & Arnold (Coarse)	22,000
Livesey & Co. (Coarse)	13,500
Rubber Import Co. (Coarse)	11,500
Poel & Arnold (Cauchó)	22,500
171,500	
JUNE 8.—By the <i>Kroonland</i> —Antwerp:	
Poel & Arnold (Coarse)	11,500
11,500	
JUNE 9.—By the <i>Bluecher</i> —Hamburg:	
W. L. Gough & Co. (Fine)	7,000
Poel & Arnold (Coarse)	15,000
22,000	
JUNE 11.—By the <i>Mauretania</i> —Liverpool:	
Poel & Arnold (Coarse)	93,000
New York Com. Co. (Fine)	33,000
126,000	
JUNE 14.—By the <i>Lapland</i> —Antwerp:	
W. L. Gough Co. (Fine)	11,500
11,500	
JUNE 15.—By the <i>Surinam</i> —Bolívar:	
General Export Co. (Fine)	20,000
General Export Co. (Coarse)	22,500
G. Amsinck & Co. (Fine)	31,000
American Trading Co. (Fine)	5,500
American Trading Co. (Coarse)	5,000
84,000	
JUNE 16.—By the <i>Carmania</i> —Liverpool:	
Poel & Arnold (Fine)	240,000
Poel & Arnold (Coarse)	50,000
New York Com. Co. (Fine)	70,000
New York Com. Co. (Coarse)	22,000
Livesey & Co.	11,500
393,500	
JUNE 19.—By the <i>Campania</i> —Liverpool:	
Poel & Arnold (Coarse)	4,000
New York Com. Co. (Coarse)	11,000
15,000	
JUNE 21.—By the <i>Cleveland</i> —Hamburg:	
Poel & Arnold (Coarse)	10,000
New York Com. Co. (Fine)	2,500
12,500	

OTHER NEW YORK ARRIVALS.

CENTRALS.

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

MAY 24.—By the <i>Morro Castle</i> —Frontera:	POUNDS.
E. Steiger & Co.	4,500
Graham, Hinkly & Co.	2,500
H. Marquardt & Co.	2,500
W. L. Wadleigh	1,500
E. N. Tibbals Co.	1,000
General Export Co.	1,000
13,000	
MAY 25.—By the <i>Manzanillo</i> —Tampico:	
Edward Maurer	*110,000
New York Commercial Co.	*35,000
*145,000	

MAY 26.—By the <i>Panama</i> —Colon:	POUNDS.
G. Amsinck & Co.	8,000
Mecke & Co.	1,500
Roldan & Van Sickle	1,000
10,500	
MAY 26.—By the <i>Knutsford</i> —Maccio:	POUNDS.
A. D. Hitch & Co.	11,500
11,500	
MAY 26.—By the <i>El Dia</i> —Galveston:	POUNDS.
Continental-Mexican Rubber Co.	*175,000
*175,000	
MAY 27.—By the <i>Tagus</i> —Colombia:	POUNDS.
A. Held	5,500
G. Amsinck & Co.	3,000
For Europe	9,000
17,500	
MAY 27.—By the <i>Antilles</i> —New Orleans:	POUNDS.
Silverstein & Kellogg	1,000
Manhattan Rubber Mfg. Co.	1,000
A. T. Morse & Co.	1,000
G. Amsinck & Co.	1,000
4,000	
MAY 28.—By the <i>Mexico</i> —Frontera:	POUNDS.
Harburger & Stack	3,500
A. Klipstein & Co.	1,500
H. Marquardt & Co.	2,000
Isaac Kubie Co.	1,000
8,000	
MAY 29.—By the <i>El Cid</i> —Galveston:	POUNDS.
Edward Maurer	15,000
For Akron, O.	22,500
37,500	
JUNE 1.—By the <i>Cavour</i> —Bahia:	POUNDS.
New York Commercial Co.	17,000
A. D. Hitch & Co.	8,000
J. H. Rossback & Bros.	7,000
Poel & Arnold	10,000
42,000	
JUNE 1.—By the <i>Vigilancia</i> —Tampico:	POUNDS.
Edward Maurer	*67,000
Poel & Arnold	*35,000
*102,000	
JUNE 1.—By the <i>Denver</i> —Galveston:	POUNDS.
Poel & Arnold	*35,000
*35,000	
JUNE 1.—By the <i>Joachim</i> —Colon:	POUNDS.
G. Amsinck & Co.	2,500
Mecke & Co.	2,000
Kunhardt & Co.	2,000
Roldan & Van Sickle	1,000
A. Santos & Co.	2,000
J. S. Sambrade	1,500
Brandon & Bros.	1,000
13,000	
JUNE 2.—By the <i>El Paso</i> —Galveston:	POUNDS.
Continental-Mexican Rubber Co.	*450,000
*450,000	
JUNE 2.—By the <i>Advance</i> —Colon:	POUNDS.
Pablo Calvet Co.	4,500
Demarest Bros. & Co.	3,500
Roldan & Van Sickle	3,000
Elias & Abdo	2,000
G. Amsinck & Co.	1,500
H. Mann & Co.	1,500
Isaac Kubie & Co.	1,000
17,000	
JUNE 4.—By the <i>Lincoln</i> —Hamburg:	POUNDS.
George A. Alden & Co.	10,000
10,000	
JUNE 5.—By the <i>Yumuri</i> —Tampico:	POUNDS.
Edward Maurer	*90,000
Interior Points	*50,000
*140,000	
JUNE 5.—By the <i>Monterey</i> —Frontera:	POUNDS.
Harburger & Stack	9,000
Strube & Ulte	6,500
E. N. Tibbals & Co.	4,500
E. Stuger & Co.	4,000
Isaac Kubie & Co.	3,000
General Export Co.	2,500
H. Marquardt & Co.	2,000
American Trading Co.	1,500
33,000	
JUNE 7.—By the <i>Allianca</i> —Colon:	POUNDS.
G. Amsinck & Co.	4,500
Mecke & Co.	3,500
J. S. Sambrade	1,500
Fidanque Bros. & Co.	1,000
Meyer Hecht	1,000
11,500	
JUNE 9.—By the <i>Brazos</i> —Galveston:	POUNDS.
Poel & Arnold	*45,000
*45,000	

JUNE 9.—By the *Antilles*—New Orleans:

A. T. Morse & Co.....	3,500	
Graham Hinkly & Co.....	1,000	4,500

JUNE 9.—By the *El Monte*—Galveston:

Continental-Mexican Rubber Co.	*45,000	
For Canada	*35,000	*80,000

JUNE 9.—By the *Sarnia*—Greytown:

G. Amsinck & Co.....	20,000	
A. Rosenthal & Sons.....	4,000	
J. J. Julia & Co.....	2,000	
Mecke & Co.....	2,500	
A. M. Capen's Sons.....	2,000	
Hy. Mann & Co.....	2,000	
J. A. Pauli & Co.....	2,000	
Suzarte & Whitney.....	1,500	
Isaac Brandon & Bros.....	1,500	37,500

JUNE 10.—By the *Voltaire*—Bahia:

New York Commercial Co.....	11,500	
Poel & Arnold.....	11,500	
J. H. Rossback & Bro.....	11,000	34,000

JUNE 12.—By the *Merida*—Frontera:

Harburger & Stack.....	13,000	
E. N. Tibbals & Co.....	2,500	
H. Marquardt & Co.....	2,500	
E. Steiger & Co.....	1,000	19,000

JUNE 14.—By the *Colon*—Colon:

Piza Nephews & Co.....	4,000	
G. Amsinck & Co.....	2,500	
Hy. Mann & Co.....	1,500	
Silva, Bussenius & Co.....	1,500	
Delima, Cortesoz & Co.....	1,000	10,500

JUNE 14.—By the *Cienfuegos*—Tampico:

Poel & Arnold.....	*45,000	
Edward Maurer.....	*40,000	
New York Commercial Co....	*45,000	*130,000

JUNE 14.—By the *Momus*—New Orleans:

Hy. Mann & Co.....	5,000	
A. N. Rotholz	2,000	7,500

JUNE 16.—By the *Aug. Willem*—Colon:

A. Santos & Co.....	2,000	
Fruit Despatch Co.....	1,500	
Suzarte & Whitney	1,000	
Rosenthal & Sons	1,000	
Isaac Brandon & Bros.	1,500	7,000

JUNE 18.—By the *Manzanillo*—Tampico:

Edward Maurer	*175,000	
Poel & Arnold	*50,000	*225,000

JUNE 18.—By the *El Cid*—Galveston:

Continental-Mexican Rubber Co.....	*95,000
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JUNE 19.—By the *Morro Castle*—Mexico:

Harburger & Stack.....	2,500	
H. Marquardt & Co.....	1,500	
J. Kubie & Co.....	1,500	
Edward Maurer	1,000	6,500

JUNE 19.—By the *Byron*—Bahia:

Poel & Arnold.....	42,000	
New York Commercial Co....	23,000	
A. Hirsch & Co.....	22,500	
J. H. Rossback & Bros.....	18,000	
A. D. Hitch & Co.....	5,000	110,500

JUNE 21.—By the *Panama*—Colon:

G. Amsinck & Co.....	5,000	
Mecke & Co.....	2,000	
Roldau & Van Sickle.....	3,000	
Wessels, Kulemkampf Co.....	1,500	
Eggers & Heinlein.....	1,500	
Henry Mann & Co.....	1,500	
J. S. Sambrade & Co.....	1,000	
Delima, Cortesoz & Co.....	1,000	16,500

JUNE 21.—By the *El Paso*—Galveston:

Continental-Mexican Rubber Co.	*70,000	
Edward Maurer	*25,000	*95,000

JUNE 21.—By the *Comas*—New Orleans:

A. T. Morse & Co.....	1,000	
Manhattan Rubber Mfg. Co....	1,000	2,000

AFRICAN.

MAY 22.—By the <i>Victoria</i> —Hamburg:	POUNDS.
General Rubber Co.	8,000

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it DOES NOT BLOW UNDER CURE.

WRITE FOR PRICES.

Massachusetts Chemical Co., Walpole, Mass.

SOLE FACTORS:-
WALPOLE RUBBER WORKS -
WALPOLE VARNISH WORKS -
ELECTRIC INSULATION LABORATORY

WE ARE OFFERING SCRAP RUBBER AT LOW PRICES



Theodore Hofeller & Company
BUFFALO, N. Y.

WE SOLICIT YOUR INQUIRIES



HYDRO-CARBON

One that under chemical analysis tests 99.84 per cent. pure; that runs absolutely uniform in quality; that did not oxidize when subjected to the elements for three years on the roof of our factory, although the iron pan in which it was placed was so affected that nothing but a few scales of rust was left; besides, the pan became so "rubbery" that the cakes of Hydro-carbon were not affected by the sun's rays, in the test lasted three summers. With the temperature at 4° F.

way of causing them to melt and lose their original shape, though the material has practically the same degree of flexibility as in midsummer. It works best in compounding on red hot mill rolls, not sticking as mixed or blended Hydro-carbons do, but instead is absorbed readily by the compound; its use tends to decrease the time necessary to mill a batch, in addition to which it is rich in hydrogen and adds that element to a shoddy which is necessary to insure perfect revulcanization. It is a direct aid to stocks run through a tubing machine and assists in calendering. Finished goods of which it is a part feel more "rubbery" and have longer life than goods made without it.

"Pretty near ideal," you say. Yes, but our MALTHA Hydro-carbon is doing this for some of the largest rubber manufacturers in this country every day. May we not send you a free working sample to try out and prove it for yourself? Write to-day.

AMERICAN WAX CO., - Boston, Mass., U. S. A.

CHARLES T. WILSON MEXICAN (Guayule) RUBBER

I invite inquiries from manufacturers on this rubber. Being the direct representative of large producers, I am in position to quote on various qualities for immediate and future delivery.

Telegraphic Address,
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Office,

46 Cortlandt Street,

NEW YORK CITY

GUAYULE

Made by mechanical process only, of strictly fresh shrub.

No chemicals used.



PARRA

The recognized Standard, practically clean, containing less resin and having greater tensile strength than any other Guayule.



DURANGO

Prepared from high grade "Parra" Guayule, guaranteed uniform, washed and dried, ready for use. Vulcanizes easily without special compounding.

CONTRACTS MADE FOR REGULAR WEEKLY
OR MONTHLY DELIVERIES

For Samples and Quotations apply to

ED. MAURER

97 Water St., NEW YORK

Sole Representative of the MADERO interests in Mexico,
Largest Producers of Guayule Rubber, Operating Nine Factories.

MAY 22.—By the <i>Erika</i> =Lisbon:	Joseph Cantor	11,000		JUNE 14.—By the <i>Kanefels</i> =Colombo:	A. T. Morse & Co.	*5,500	
General Rubber Co.	56,000	Rubber Trading Co.	7,000	148,000	New York Commercial Co.	*4,500	*10,000
MAY 24.—By the <i>Arabic</i> =Liverpool:		JUNE 16.—By the <i>Carmania</i> =Liverpool:					
Poel & Arnold	11,000	Poel & Arnold	65,000		JUNE 14.—By the <i>Lafand</i> =Antwerp:		
MAY 26.—By the <i>Vaderland</i> =Antwerp:		George A. Alden & Co.	7,000	72,000	New York Commercial Co.		*22,500
A. T. Morse & Co.	9,000	JUNE 19.—By the <i>Campana</i> =Liverpool:			JUNE 15.—By the <i>Minnehaha</i> =London:		
MAY 28.—By the <i>Florida</i> =Havre:		Poel & Arnold	11,000		General Rubber Co.		*22,500
Livesey & Co.	9,000	JUNE 21.—By the <i>Cleveland</i> =Hamburg:			JUNE 21.—By the <i>St. Louis</i> =London:		
MAY 29.—By the <i>Campana</i> =Liverpool:		George A. Alden & Co.	30,000		New York Commercial Co.	*22,500	
Poel & Arnold	15,000	A. T. Morse & Co.	7,000		A. T. Morse & Co.	*2,500	
MAY 29.—By the <i>Pennsylvania</i> =Hamburg:		Rubber Trading Co.	8,000		Livesey & Co.	*2,000	*7,000
Rubber Trading Co.	16,000	W. L. Gough Co.	5,000		JUNE 16.—By the <i>Carmania</i> =Liverpool:		
W. L. Gough & Co.	8,000	JUNE 21.—By the <i>Arabic</i> =Liverpool:			Poel & Arnold		9,000
JUNE 1.—By the <i>Celtic</i> =Liverpool:		General Rubber Co.	56,000		JUNE 21.—By the <i>Hawthorn</i> =Bremen:		
General Rubber Co.	33,500	Rubber Import Co.	4,500	60,500	New York Commercial Co.		*7,000
JUNE 1.—By the <i>Zeeland</i> =Antwerp:		JUNE 21.—By the <i>Vaderland</i> =Antwerp:					
W. L. Gough Co.	20,000	W. L. Gough Co.	40,000				
A. T. Morse & Co.	11,000	Rubber Trading Co.	9,000				
JUNE 1.—By the <i>Chicago</i> =Havre:		Raw Products Co.	4,500				
George A. Alden & Co.	11,000	George A. Alden & Co.	4,500	58,000			
JUNE 2.—By the <i>Caronia</i> =Liverpool:		JUNE 22.—By the <i>Mexico</i> =Bordeaux:					
Poel & Arnold	20,000	Robinson & Co.	11,500				
General Rubber Co.	22,500	H. A. Gould Co.	11,500		JUNE 10.—By the <i>Norman Prince</i> =Singapore:		
Livesey & Co.	9,000	Livesey & Co.	13,500	41,500	George A. Alden & Co.	200,000	
JUNE 4.—By the <i>Lincoln</i> =Hamburg:		General Rubber Co.	5,000		Heabler & Co.	115,000	315,000
Poel & Arnold	35,000						
George A. Alden & Co.	15,000						
A. T. Morse & Co.	8,000						
Rubber Trading Co.	5,000						
JUNE 7.—By the <i>Cedric</i> =Liverpool:							
Poel & Arnold	56,000						
General Rubber Co.	90,000						
George A. Alden & Co.	11,000						
Livesey & Co.	6,500						
JUNE 7.—By the <i>Oppeburg</i> =Lisbon:							
General Rubber Co.	56,000						
JUNE 7.—By the <i>Cincinnati</i> =Hamburg:							
A. T. Morse & Co.	22,500						
Rubber Trading Co.	10,000						
Livesey & Co.	7,000						
JUNE 8.—By the <i>Kronland</i> =Antwerp:							
Poel & Arnold	45,000						
A. T. Morse & Co.	44,000						
George A. Alden & Co.	11,000						
Rubber Trading Co.	3,500						
JUNE 9.—By the <i>Bluecher</i> =Hamburg:							
A. T. Morse & Co.	45,000						
General Rubber Co.	14,000						
JUNE 11.—By the <i>Louisiana</i> =Havre:							
Poel & Arnold	15,000						
JUNE 11.—By the <i>Mauretania</i> =Liverpool:							
George A. Alden & Co.	33,500						
Poel & Arnold	11,000						
JUNE 12.—By the <i>Amerika</i> =Hamburg:							
George A. Alden & Co.	11,500						
Poel & Arnold	13,500						
A. T. Morse & Co.	11,000						
JUNE 14.—By the <i>Baltic</i> =Liverpool:							
General Rubber Co.	56,000						
JUNE 14.—By the <i>Savoie</i> =Havre:							
George A. Alden & Co.	15,000						
JUNE 14.—By the <i>Lafand</i> =Antwerp:							
George A. Alden & Co.	85,000						
Poel & Arnold	45,000						

EAST INDIAN.

[*Denotes plantation rubber.]

GUTTA-JELUTONG.

MAY 25.—By the *Albenga*=Singapore:

Heabler & Co.	325,000	
George A. Alden & Co.	325,000	
Poel & Arnold	225,000	
W. L. Gough Co.	55,000	930,000

JUNE 10.—By the *Norman Prince*=Singapore:

George A. Alden & Co.	200,000	
Heabler & Co.	115,000	315,000

GUTTA-PERCHA.

MAY 25.—By the *Albenga*=Singapore:

Heabler & Co.	50,000	
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MAY 29.—By the *Pennsylvania*=Hamburg:

E. Oppenheim	14,000	
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JUNE 10.—By the *Bleucher*=Hamburg:

E. Oppenheim	11,000	
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BALATA.

MAY 21.—By the *Grenada*=Trinidad:

G. Amsinck & Co.	2,500	
J. A. Pauli & Co.	2,000	4,500

JUNE 1.—By the *Philadelphia*=London:

W. L. Gough Co.	5,500	
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JUNE 1.—By the *Coppename*=Demerara:

George A. Alden & Co.	9,000	
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JUNE 15.—By the *Surinam*=Bolivia:

For Europe	35,000	
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JUNE 21.—By the *Mexico*=Havre:

C. P. dos Santos	11,500	
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CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—APRIL.

Imports:	Pounds.	Value.
India-rubber	5,372,595	\$4,085,517
Balata	12,508	5,406
Gutta-percha	24,612	7,115
Gutta-jelutong (Pontianak) ..	4,791,207	179,306
Total	10,200,832	\$4,277,428

Exports:	Pounds.	Value.
India-rubber	69,010	\$58,811
Reclaimed rubber	53,161	6,992
Rubber scrap imported	1,511,278	\$110,196

BOSTON ARRIVALS.

MAY 4.—By the *Sachem*=Liverpool:

George A. Alden & Co. (African)	5,000	
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PARA EXPORTS OF INDIA RUBBER, MAY, 1909 (IN KILOGRAMS).

NEW YORK.					EUROPE.				
EXPORTERS.	Fine.	Medium.	Coarse.	Cauch.	TOTAL.	Fine.	Medium.	Coarse.	TOTAL.
Gruner & Co.	105,927	49,162	48,981	23,238	227,308	107,085	12,304	12,290	104,731
E. Pinto Alves & Co.	27,030		58,740	22,770	108,540	49,810		13,860	38,610
Adelbert H. Alden	65,685	14,672	32,769	5,149	118,275	20,540	7,602	8,992	40,710
J. Marques	10,540	2,210	72,930		85,680	36,040	2,720	26,400	65,160
Alves Braga & Co.						59,229	9,648	20,303	106,429
Gordon & Co.	770		52,326		52,496	17,637	4,230	4,883	43,760
R. O. Ahlers & Co.	12,685				12,685	50,227		3,545	79,717
R. Suarez & Co.						39,275	114	2,341	66,208
Pires, Teixeira & Co.	10,200		13,530		23,730	22,950	680	11,880	35,510
Mello & Co.						7,412		3,720	25,960
De Lagotellerie & Co.	15,330	3,685	1,004		20,019	1,984	695	2,502	8,990
Leite & Co.									5,915
Scholz, Hartje & Co.				5,940	5,940				3,989
Braga Sobrihuo & Co.									5,915
Itacatiara, direct.						1,863	54	1,486	3,989
Manaos, direct	241,584	53,747	120,970	97,529	513,830	106,000	12,944	23,782	357,623
Iquitos, direct.						7,643	494	3,593	90,719
Total, May	489,751	123,476	407,190	148,686	1,168,503	536,701	51,485	139,577	1,353,076
Total, April	707,343	125,604	619,433	433,941	1,896,321	1,044,128	188,500	245,423	2,354,585
Total, March	786,778	134,535	486,099	523,316	1,930,728	1,044,496	193,071	378,918	2,462,665
Total, February	1,188,074	218,475	598,018	483,843	2,488,410	869,658	202,450	405,838	2,093,773
Total, January	1,036,998	218,053	639,306	324,149	2,218,506	1,521,113	154,401	365,351	2,816,507



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JULY 1, 1909.

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Antwerp.

THE regular monthly rubber inscription was set for June 30—too late for a report in this issue. It was expected that about 500 tons would be offered. At the preceding sale, on May 27, the offerings and sales compared as follows:

	Offered.	Sold.
Congo sorts	229,401	181,086
Other sorts	68,953	41,514
Total	298,354	222,600

There was a good strong demand and a rise in price of about 50 centimes per kilogram [$4\frac{1}{2}$ cents per pound]. Plantation rubber was very active.

Antwerp.

RUBBER ARRIVALS FROM THE CONGO.

MAY 24.—By the steamer *Leopoldville*:

Bunge & Co.....	(Société Générale Africaine) kilos	120,000
"	(Chemins de fer Grands Lacs)	2,200
"	(Société Abir)	600
"	(Comité Special Katanga)	4,000
Société Coloniale Anversoise.....	(Belge du Haut Congo)	1,150
"	(Cie. du Lomami)	2,550
"	(Cie. du Kasai)	103,500
"	(Lulonga)	80
"		10,500
"	(Sud Cameron)	14,300
Société Générale de Commerce.....	(Lobay)	6,200
L. & W. Van de Velde.....		4,000
M. S. Cols.....		1,600
		270,680

RUBBER STATISTICS FOR MAY.

DETAILS.	1909.	1908.	1907.	1906.	1905.
Stocks, April 30...kilos	607,787	717,913	461,573	880,458	635,875
Arrivals in May.....	515,061	415,404	644,324	656,759	287,333
Congo sorts	442,098	337,368	557,136	536,564	214,751
Other sorts	72,963	78,036	87,188	120,195	72,582
Aggregating	1,122,848	1,133,317	1,105,897	1,537,217	923,208
Sales in May.....	433,610	361,740	352,983	811,966	576,104
Stocks, May 31.....	689,238	771,577	752,914	725,251	347,104
Arrivals since Jan. 1....	1,973,430	2,144,762	2,281,955	2,728,448	2,220,288
Congo sorts	1,443,130	1,859,791	1,938,228	2,110,079	1,757,649
Other sorts	530,300	284,971	343,727	618,369	462,639
Sales since Jan. 1....	1,879,927	2,380,079	2,187,225	2,738,384	2,414,545

Plantation Rubber.

EXPORTS FROM THE FAR EAST.

From Ceylon—January 1 to May 17:

1909	pounds	355,965
1908		239,017
1907		167,063

From Singapore—January 1 to May 5:

1909	pounds	923,511
1908		653,233
1907		413,834

From Penang—January 1 to April 18:

1909	pounds	982,564
1908		347,092
1907		46,961

[Increase from 1907 to 1908 for corresponding periods, 97.3 per cent.; increase 1908 to 1909, 82.4 per cent.]

PLANTATION YIELDS (IN POUNDS).

	1908.	1909.
<i>Bukit Rajah Rubber Co.:</i>		
May	7,423	19,723
<i>Vallambrosa Rubber Co.:</i>		
Two months to May 31.....	34,726	49,198
<i>Lanadron Rubber Estates:</i>		
Five months to May 31.....	62,918	84,666
<i>Federated (Selanger) Rubber Co.:</i>		
Two months to May 31.....	6,789	14,494
<i>Pataling Rubber Estates Syndicate:</i>		
Five months to May 31.....	25,048	49,399
<i>Linggi Plantations:</i>		
May	15,500	43,000
<i>Perak Rubber Plantations:</i>		
Two months to May 31.....	3,690	12,696
<i>Consolidated Malay Rubber Estates:</i>		
Five months to May 31.....	30,743	67,785
<i>Kuala Lumpur Rubber Co.:</i>		
Eleven months to May 31.....		172,710
<i>P. P. K. (Ceylon) Estates:</i>		
May	2,334	3,309

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MARK IS STAMPED ON
THE INSIDE.



INDIA RUBBER WORLD

CAOUTCHOUC
HEVEA BRASILIENSIS
GUTTA-PERCHA
MORCHOPSIS GUTTA

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Vol XL. No. 5.

AUGUST 1, 1909.

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RUBBER GOODS SUBSTITUTES.

IT is often remarked that rubber is one of the necessities of the present day—that no matter what its cost, it must be used. The fact is, however, that there are very few goods made of rubber to-day that could not be supplanted by very excellent makeshifts. Just as soon as the price of crude rubber becomes too high, the rubber goods substitutes come to the front and gain ground that they never lose. In footwear and in belting, leather treated to make it waterproof, often fills the bill. In clothing, rainproofs and slickers are bought. Instead of hard rubber, cellulose, galalith and various compositions find greater use. Elastic bands are replaced by twine and metallic fasteners; rubber packings by treated fiber and metal; rubber matting by lineoleum, fiber, or wood and metal; rubber carriage cloth by artificial leathers; rubber cements by other adhesives; and hosts of minor articles by a variety of proxies of which the substitution of the soapstone for the hotwater bottle is a good illustration. In other words, rubber is rarely a necessity. Perhaps the most notable case of absolute dependence upon it is instanced by the automobile, which would not be possible to-day without the rubber pneumatic tire. It is certain, however, that if every trace of rubber manufactured and unmanufactured disappeared from the face of the earth

to-day, business would go on, industries would adapt themselves to other materials, and the world's progress would not be appreciably stayed. This is why too high a price for crude rubber is dangerous. With 50 cent rubber assured the business of the world could be doubled in two years; with \$2 rubber the present volume would drop off more than half.

THE PRICE OF RUBBER GOODS.

HIGHER prices for manufactured rubber goods all along the line have come and are coming. For once in the history of the trade manufacturers are not stopping to consider what the others are doing, but are changing their quotations as the crude material advances. This is just as it should be. There is not the slightest danger that prices will go too high. The competition of the man who is held by contract, who does not know his costs, or who is extremely speculative, will regulate that. A very encouraging feature of the situation is the fact that the large wholesalers and buyers seem to feel the stress under which the manufacturers are laboring, and if they are not advising advances in prices, they at least do not view them with distrust.

PROSPERITY AND DEAR RUBBER.

OUR regular British correspondent on another page voices a suggestion which is apt to be heard whenever crude rubber prices are on a rising plane—that it may be due to “manipulation.” This is an euphonious word, and its use is safe because the assertion involved cannot readily be proved or disproved. Besides, while the charge of “manipulation” may be meant to be uncomplimentary to somebody, it neither carries a criminal imputation nor is aimed at any one in particular. It is, therefore, harmless.

Usually a rise in rubber prices is attributed in Europe to influences on this side the Atlantic, and *vice versa*. But just where or how rubber prices are fixed has not yet become a simple question. Assuming that advances in rubber are due to speculative manipulation, how about the fall in prices which generally follows?

All buying and selling of commodities is more or less speculative, but what is criticized is the alleged control of the market by other influences than mere supply and demand. It is certain that much trading in crude rubber is of the class known as “short” sales, which involves an effort to depress prices. Most purely speculative effort in the rubber market is of this kind, instead of creating a “corner” in the supply and forcing consumers to pay exorbitant prices. Most attempts to corner rubber have resulted disastrously to the promoters, and if high prices have resulted a speedy “slump” has followed.

Whatever the cause of fluctuations in rubber, however, each succeeding slump has stopped a higher point than the one before, until it would now appear that the

normal price of rubber is twice as high as twenty years ago, in spite of the greatly increased production meanwhile. Surely this general and long sustained advance—to say nothing of the earlier steady advance from 25 cents per pound—cannot be attributed to any purely speculative influences. The demand for rubber has grown steadily from the date of its first utilization, and continues to grow. Whatever may be the future capacity of the world to produce rubber, it is now below the world's needs for the material.

The automobile situation in America alone points to a vastly enlarged increase in the world's demand for rubber. During the recent year of depressed business there was no loss of activity in the automobile industry in the United States, but each year showed a larger production of vehicles. This year's output is larger than ever, while every indication points to a still greater rate of increase for 1910. The condition is near at hand when automobile tires alone will call for as much rubber as was consumed in the whole industry in the United States ten years ago—the date of the introduction of the automobile. The condition of the country as a whole is most satisfactory. The period of depression referred to did not leave the country poorer, but in many respects in a better condition, and there is reason to expect a more notable era of progress than has yet been witnessed. To note a single feature, the normal condition of agriculture in America is the ownership of the land by the men who till it—every farmer his own landlord—with such results that the farmers are becoming notably wealthy as a class. The typical farmer to-day is an automobile owner.

But the future of the rubber industry will not be concerned with automobiles alone. The commercial truck and the farmers' and villagers' buggy demand rubber tires. And all the other branches of the rubber industry show a steady rate of growth. While the sales of mechanical goods, footwear, and the like during a year or so past fell off in volume, the profits reported by the large manufacturers were no less than in former years, and the condition of the industry was never more promising than now. It is such conditions of prosperity in America—to say nothing of the rest of the world—that make rubber cost more—not the manipulation of a few traders buying and selling. They could not sell at current prices unless the world wanted rubber goods in larger volume year after year. Better consider, as affecting rubber prices, such factors as the "record" American corn crop this year, estimated at 3,000,000,000 bushels, and the sale of which will help to swell so many farmers' bank accounts.

A SUCCESSFUL RUBBER CLUB.

TEN years ago the New England Rubber Club came into being with about twenty members. Since that time it has steadily grown until now its membership amounts to about 250. The fact that the club has a large membership outside of New England and that the old name is no longer accurately descriptive led its executive

committee to suggest in its stead the broader name, The Rubber Club of America. At a recent business meeting of the club this change was made. There is to-day, therefore, no New England Rubber Club; or rather, the old club lives, but under a new name that promises greater growth and influence than has been possible hitherto.

The club owes its existence specifically to the fact that religion, politics, or "shop" are not discussed within it. No member tries to exploit it for his own company, or firm. Trade differences are laid aside, and all meet as friends. If it should happen that a "whisperer" began to sow seeds of dissension, his diatribes would be ignored or promptly laughed out of existence. Trade loyalty in its broadest sense, and an appreciation of the leaders of the industry, have from the beginning been deep rooted sentiments. With its horizon broadened and its aims unaltered, there is no reason why another ten years may not find it greater, and more prosperous—a potent and practical preserver of trade integrity and industrial peace.

THE ACRE RUBBER CONGRESS.

IT is probable that the Congresso Industrial Seringueiro to be held this month at Senna Madureira, at the initiative of the Prefect of Alto Purus, in the Acre, is not likely to suffer by comparison with any of the "rubber congresses" held so far. The conference held in connection with the Ceylon Rubber Exhibition of 1906 was notable for its effect in focusing general attention upon the growing importance of the rubber industry, and the success which had been attained in rubber planting—something which had been talked about for decades, but still was regarded by many people as somewhat mythical. The Djember congress, in 1907, was rather local, having for its purpose chiefly the intelligent stimulation of rubber culture in the Dutch East Indies. The conferences at the Olympia, London, in 1908, were more truly international in character, and broader in scope, with a correspondingly broader effect—especially in respect of pointing to the importance of plantations in contributing to future supplies of rubber.

An editorial article headed "A New Light on the Amazon" in THE INDIA RUBBER WORLD, January 1, 1907 (page 104), reviewed certain official references to rubber by the governors at Pará and Manáos, clearly traceable to the Ceylon exhibition and its results. They were among the first direct evidences of the awakening of the giant Amazon to the fact that in the rubber interest it might actually have rivals. Long had the people of the "Pará rubber" country rested secure in the feeling that their principal product for export could not be duplicated elsewhere on the globe; it gave them a title to distinction and the basis of an enduring prosperity. But when the International Rubber Exhibition of London was held the Amazon rubber states were ably represented there, with the aid of displays of products which challenged the attention and competition of the world.

Out of all this has grown the movement for a conference of Brazilian rubber producers, to take council how they may not only protect their present position of supremacy in rubber, but, further, how so to systematize the business as to enhance and make more secure their profits from it. And the experimenters in rubber elsewhere—in Ceylon, or whatever other country—who have called to their assistance the whole realm of cultural science and the highest financial skill, may rest assured that the *seringueiros* and *aviadores* of the Amazon and its tributaries will not be slow to avail themselves of every new suggestion that may be applicable to the Amazon rubber regions.

From this new competition the whole world will profit. It is hardly imaginable that enough rubber can be planted anywhere for decades to come to keep pace with the growing demand for this material. Hence the pressing need for the rubber planted by nature in South America, and the best development of which in the past has not come to pass because the demand was less pressing than now.

We devoted no little space some years ago to the Acre territory, when it was the subject of concessions held by Sir Martin Conway and his associates in England and America, who held the idea that a fortune awaited the opening of that region along modern ideas. The natives were alert enough, however, to hold the future of the country in their own control, and so far as rubber is concerned, at least, the development of which Sir Martin dreamed seems near at hand.

Our salutations to the Congresso Industrial Seringueiro at Senna Madureira, in the Acre, August 8-22!

ONLY A REFERENCE TO THE TARIFF.

THE progress made at Washington in revising the tariff schedules of 1897 is not yet sufficient to permit a statement in this issue of the final shape of any section of the new Act. There is no indication, however, of any important changes of direct application to the india-rubber industry. As has been surmised in these pages, nothing will be found in the work of the Congress in contravention of the theory of protection which so long has obtained in America; the questions in hand have been rather how to provide sufficient revenue with the minimum pressure of burden in any particular quarter.

Into the details of the debates we cannot enter here. And when the result is finished it shall be within our scope to analyze the schedules, rather than to comment upon them. This may be left to the political journals.

At the same time the question of protection *v.* free trade is brought up in connection with an interesting piece of trade news in this issue. At least the reported intention of an important British rubber manufacturing company to establish branch works in Germany, in order to avoid the import duties imposed in that country, is the text for comments by a great London daily from which we quote, that England has, under her present fiscal system, no such

means for the protection of her own industries from competition from the outside.

It is not so long since two important rubber tire firms abroad, whose products had gained a foothold in the American trade, transported a portion of their plant across the Atlantic rather than pay duties, with the result that the money disbursed for labor on these tires is now expended on this side. It appears that examples of this kind have the same ultimate effect upon the people's representatives at Washington, whatever may have been their fiscal theories, personally, before coming to take an active part in public affairs.

WE CONGRATULATE "THE INDIA-RUBBER JOURNAL" both upon the completion of its first quarter century of publication and upon the high standard of excellence which it has attained.

MUST HIGHER PRICES COME?

[FROM THE "GUMMI-ZEITUNG," BERLIN, JUNE 25.]

A MERE perusal of the latest market reports concerning the rubber trade will lead to the conclusion that the question which serves as a heading for this article is almost superfluous. Other similar reports will undoubtedly follow, and the rubber trade will have to prepare for a period of unrest, marked by a sharp struggle for the establishment of higher prices for rubber goods. Such contests, moreover, will be unavoidable, since present conditions leave no other available expedient to rubber manufacturers than that of adjusting their prices to the advance in the cost of the crude material, unless they are satisfied to manufacture at a considerable loss, or are willing to make materially inferior grades of goods. Even those who in the earlier part of the current year were in a position to fall back on a supply of rubber purchased at lower prices are now compelled to follow suit by advancing their prices, because all hope of seeing the market decline below present figures has not only disappeared, but there are even indications that further advances may be expected.

An event which was considered impossible even as late as the end of last year—viz: a quotation of 6 shillings on fine Pará—has nevertheless become a fact, and prices are showing a tendency to advance still further. The market labors throughout under great excitement, manufacturers are not in a position to hold back and wait, and there is a constant demand, since purchases for several months past generally have been restricted to the covering of immediate requirements. These conditions readily explain the fact that the market for all medium grades was likewise much stronger, and that present quotations on the same show even a greater advance than those in the leading grades, good quality African lots having been sold at higher prices than ever before.

In view of this enormous advance, the equal of which has been witnessed in the rubber industry only once before, there is evidently no other available expedient than that of adjusting the prices of manufactured goods, at least to some extent, to prevailing conditions. There is no other way out of the difficulty, and although the managers of many manufacturing concerns may be averse to such a measure, and dealers may find it difficult to be certain that it is absolutely necessary, it is a fact that the prices of rubber goods must be advanced by common consent.

The advance in the rubber market has already continued for more than six months, and every expectation that there would be a break has been foiled. The cost of crude material was constantly increased, and as early as December of last year an advance in prices of goods was unanimously decided on, but only partially carried out, the belief in a weakening of the market being too strong, at that time. At present, however, it would be

difficult indeed to find any one not convinced that it would be simply impossible to maintain former prices for rubber goods. An advance in prices is unavoidable, whether it be the result of joint action on the part of the manufacturers, or whether manufacturers raise their quotations as far as necessary, according to their individual position, and the sooner such an advance is carried into effect, the better will it safeguard the manufacturers against loss.

Our industry has once before found itself in the same position, during a similar advance of the market which occurred a few years ago. At that time the manufacturers met prevailing conditions by advancing their prices thrice, each time by 10 per cent. in accordance with the continued advance in the rubber market. The present situation, however, is more serious. This time the advance was more rapid and abrupt than a few years past, and especially the medium grades, to which manufacturers were wont to have recourse to a certain extent at least, were much more rapidly affected by the present advance. There is at present no possibility of avoiding the issue, and crude rubber, including even the inferior grades, must now be purchased at an advance of from 40 per cent. to 60 per cent. above last year's prices.

This enormous increase in the cost of the most important crude material within one year, is made still more serious by unfavorable general business conditions which make it difficult for manufacturers to find an outlet for their products both at home and through export channels. But notwithstanding prevailing conditions, or rather in consequence of the same, it has now become necessary to take, with the greatest determination, the step which alone can safeguard the rubber goods manufacturers against heavy losses, and the trade against serious injury. *The prices of rubber goods of every description must be materially advanced!* They must be advanced sufficiently to maintain established standards of quality and to make it possible to do business with a margin of profit. The contentions which will result from the taking of this necessary step—and they will most certainly occur—are an unavoidable feature in the strife to insure the future of our industry under wholesome conditions. No one can avoid them, because the conditions of the market compels every one to take action.

CEYLON RUBBER SALE CONTRACTS.

THE sale of rubber ahead under contract by a number of Ceylon plantation companies for the current year [see THE INDIA RUBBER WORLD, May 1, 1909—page 275] has proved so satisfactory that several of the companies are reported to have concluded similar arrangements for 1910. These contracts provide for the delivery to Colombo merchants at 3.70 rupees [= \$1.20 gold] per pound, for fine rubber. Two contracts specify 3.60 rupees [= \$1.16.8 gold] for second grade. No contract is mentioned as specifying scrap. This rubber remains to be marketed, and the price to be paid eventually by the consumer includes the Colombo merchant's profit, cost of transportation, and selling expenses in London or New York. The fact that Colombo merchants are willing to contract to pay \$1.20 for deliveries up to February 31, 1911, is an indication of a firm confidence in continued high prices for rubber.

Grand Central Ceylon Rubber Co., Limited, whose existing contract at 3.70 rupees calls for 60,000 pounds this year, specify up to 112,000 pounds of No. 1 crepe next year at the same price, and 20,000 pounds No. 2 crepe at 3.60 rupees [= \$1.16.8], delivery between July 1, 1909, and January 31, 1910.

The Seremban Estate Rubber Co., whose contract for this year covered an estimated production of 120,000 pounds, specify in their contract for next year 180,000 pounds. Their contract runs to December 31, 1910. Pallagodda estate [Kalutara Co., Limited] specify 40,000 pounds next year as against 30,000 this year, and Ribu Rubber Co., Limited, 40,000 pounds against 20,000.

The Udabage Tea and Rubber Co., who expect to produce 3,000

pounds of first class rubber during the latter half of this year have contracted to sell at 4.05 rupees [= \$1.31.4 gold per pound], while they have contracted to supply up to 12,000 pounds next year at \$1.20.

Current prices for rubber at Colombo are materially higher than mentioned in the contract agreements. A considerable quantity was sold for the Kalutara Rubber Co., Limited, on June 3, at 4 rupees [= \$1.29.8 per pound]—the highest price touched locally for a long time. The *Ceylon Observer* of June 10 reported: "The price of rubber locally has advanced steadily and sales of best quality at 4.15 rupees [= \$1.34.6] are now reported. There is also a great demand for 1910 crops at 3.70 rupees (from America, a large part of it); so the manufacturers' anticipation evidently is that rubber prices are to be fairly well maintained for a good many months to come." The highest price ever obtained for plantation rubber in Colombo was 5.17 rupees [= \$1.67.7]; but that was a "fancy" price for a small sample lot, and not an ordinary commercial sale. The high water mark of the Colombo market in 1907 was 3.80 rupees [= \$1.24] per pound, and in 1908 3.90 rupees [= \$1.26.5] per pound.

A plantation manager in Malaya, interviewed by *The Ceylon Observer*, does not anticipate a very great increase in plantation rubber production before 1914, though of course there will be the yearly increase, "but in that year the advance in the supply is likely to come in the shape of a burst. It need not, however, necessarily send the prices down with a rush, because on that we hope that the consumption will have largely increased while the supply of wild rubber will probably not have increased to anything approaching the same extent."

"WHAT BECOMES OF THE RUBBERS?"

THIS question was discussed incidentally by the "Lasterville Boot and Shoe Club," as reported exclusively for the *Boot and Shoe Recorder*. Mr. Willie Fitem, having gained the floor, said:

"What becomes of the rubbers?"

"Ten per cent of 'em are worn out by tight wads that come in only when their rubbers get to be cisterns, they have wet feet, and after you have sold them they insist on having the old ones done up 'for use when it isn't wet,' instead of contributing them to the clerks' old rubber box.

"Ten per cent are lost. Left at the social. Exchanged with a fellow who got out earlier and had first pick at the banquet. Stuck in the mud while running for the car, and the like.

"Ten per cent are placed on a hot stove by the wearer and destroyed. I mean, placed there while wearer is warming feet.

"Ten per cent are bought too small, or worn over shoes larger than those over which they were fitted, and the toe of the shoes projecting over the sole of the rubber wears a hole quickly, or the shoes being too wide makes the sharp edge of the leather shoe stretch the side of the rubber out over the sole and thus cut it out, or a flat shoe is put in a French heel rubber, won't go to the bottom, makes a sort of accordion of the rubber heel and quickly wears it out.

"Ten per cent are loaned to somebody who is calling and are never brought back, and 60 per cent. are put away in a dark closet where owner can't find them, are overlooked, forgotten, and when they are dragged out a year or so later are spoiled by rubber decay.

"Ten per cent are—"

The Chair.—Hold on, Willie, you've got 110 per cent now.

Willie.—All right then, I'll quit. I must have got mixed up on my additions, I—

EXPORTS of india-rubber from Ciudad Bolivar, Venezuela, do not increase. They amounted to 258,404 kilograms in 1906 and only 179,234 in 1907.

The India Rubber Trade in Great Britain.

By Our Regular Correspondent.

THE Universal washing machine, patented and manufactured by Messrs. Werner, Pfeleiderer & Perkins, Limited, engineers of Peterborough, England,* seems destined to effect a revolution in the washing rooms of rubber works. By the courtesy of the management of one of our large rubber

NEW RUBBER WASHING MACHINE.

factories I recently had the opportunity of seeing the machine at work, both in Pará rubber and Assare scrap. Speaking generally, the machine kneads the rubber between two deeply grooved rollers set about one inch apart, the action being rather like that of a masticator. Water, hot or cold, flows on the rubber from a perforated pipe, and is run off at the bottom of the machine with the sand and dirt, either continuously or at intervals. Where much wood is present, as in the case of Assare scrap, this is floated off by filling up with water, which takes the wood with it over the sides of the vessel which encloses the rolls. There are two main points about the new machine as regards its superiority over the ordinary washing rolls: these are saving of time and labor and the production of a rubber of superior strength. With regard to the first point, this is perhaps more marked in the case of inferior rubber than with Pará, from which so little impurity has to be removed. A batch of about 100 pounds of fine rubber was washed in 20 minutes, and a similar quantity of very woody Assare scrap in 40 minutes, the latter representing a very great saving of time and labor. Moreover, the rubber is capable of being sheeted much more easily than where ordinary rolls are used. Rubber as it comes from the machine is in the lump form and requires sheeting on the rolls before going to the drying chambers, so that the adoption of this machine does not mean the scrapping of all the present plant of the washing department. Turning to the quality of the washed rubber, I do not know what the patentees of the machine claim in this direction, and I have had no opportunity of forming a reliable opinion of my own. The manager, however, of the works I visited was emphatic that washing by the new process improved the strength of the rubber about 20 per cent. If this opinion is generally upheld it is of course a matter of considerable importance. No doubt the decreased period of time during which the rubber is under treatment and the alteration in the incidence of the stresses to which it is subjected are responsible for the improvement in the strength, and we would therefore expect the improvement to be more pronounced with the low

grade dirty rubber than in the case of Pará. In these days of increasing unemployment it is not altogether satisfactory to find that the new machine effects a reduction in the labor bill, though those who are business men pure and simple will doubtless look at the matter in a different light. So far only one or two of these machines have been installed, but I hear of several which are on order for rubber works of importance.

IN connection with a certain process for removing cab tires, to which I recently referred, it has been pointed out to me that

THE CAB TIRE.

the matter has lost a good deal of its importance because the cab tire is doomed, owing to the competition of the taxicab. Whatever the future, near or remote, may bring in its train, the cab tire is by no means extinct yet, nor is the trade in it in a moribund condition. With regard to its origin it may not be generally known that it was first made and applied by the Earl of Shrewsbury, who started a small works at Weston under the management of Mr. William Oliver, who had been with Messrs. Charles Macintosh & Co., Limited. This was about 25 years ago. The name of Shrewsbury has since been well known in connection with the Shrewsbury-Challiner Wheel and Tire Co., of Ardwick, Manchester.

THE fact that this domestic accessory has been described in the French Chamber as murderous, and that a bill for the

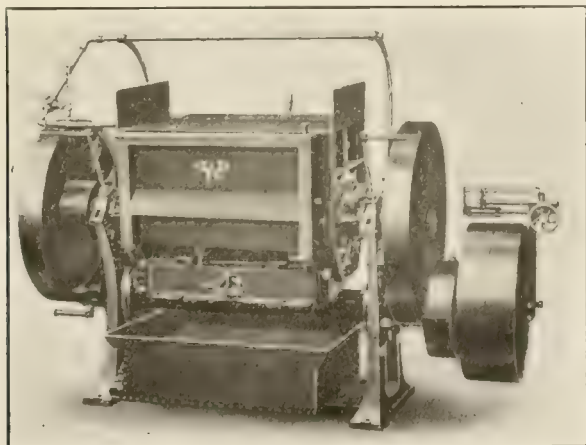
FEEDING BOTTLE TUBING.

abolition of its sale in France has passed its first reading, will not be received altogether with complacency by the few manufacturers in England who have hitherto done a considerable business with the article in France. It has certainly taken some time to arrive at the point of prohibition, though I believe the medical profession in other countries besides France have long condemned it from a hygienic point of view. I have no qualification to speak on nursery topics, but I presume there must be some alternative device. This is, of course, one of those cases where a liberal application of carbolic acid or other germicide would hardly be applicable. To judge by our slow progress in emulating other nations in legislation against food antiseptics, it will be some time before the use of this tubing is illegal in England.

WHETHER there is any real foundation for the statement or not, I am unable to express any opinion of value, but it is said

HIGH PRICE OF RUBBER.

that the recent steady advance is due to market manipulation by interested parties far more than to legitimate trade demand. It certainly seems curious that while nearly all raw materials have been on the down grade for some time, rubber should continue to rise. It is not, however, quite alone in this respect, I may point out, because leather has followed the same course. Of course the higher the price of the raw rubber the more inducement there is for the public to invest in new plantations, and those which have been brought out in the last few months have certainly gone off very well. The same complaint of market manipulation has been made on previous occasions, as many will remember, and it generally brings a disclaimer that any such action is impossible. Although trade generally, especially in the textile industries, remains bad, this need not affect the demand for tires, and the extent to which the taxicab is now being utilized in Great Britain may easily account for an increased demand for rubber. Another comparatively new and rapidly developing use is for rubber tiling, now so much in evidence in steamships. With regard to the price of manufactured goods, it was only to be expected that this would be



*UNIVERSAL RUBBER WASHER.

[Made by Werner, Pfeleiderer & Perkins, Limited, Peterborough, England.]

raised, and on June 21 a circular letter was sent out from the office of the India Rubber Manufacturers' Association, in Manchester, stating that the members are compelled from that date to make a minimum advance of 10 per cent., owing to the rise in cost of raw materials and of manufacturing expenses. The customary procedure in announcing this is for the members of the Association to send to their own customers the printed letter of the Association, with their own name stamped on it in large type.

THE great fall in the price of aluminum, owing to its production electrolytically, has proved rather disastrous to those interested in its manufacture. Electricians, however, are the reverse of despondent at the present price of £60 per ton, as

ELECTRIC CABLES— AN EVENTUALITY.

they say that a slight further reduction will enable them to use aluminum instead of copper, if the latter rises above £70 per ton. To avoid the use of technical electrical terms, I may say that aluminum is not quite so good as copper for cable purposes and that rather more of it must be used. As far as I am aware no complaint has ever been brought against aluminum as having any injurious effect upon rubber, and the expense of the turning process which has to be applied in the case of copper wires will be obviated. In all probability the ordinary rubber insulation as used for copper wires would be modified in the case of aluminum, and anyhow it may be expected to last longer in many cases, because, despite the coating with tin, copper sulphide is commonly found in the rubber next the wires, and this certainly has an injurious effect upon the efficiency of the insulation.

THE price of this solvent, though much reduced from that of a few years ago, is still very high, compared with coal tar, naphtha,

CARBON TETRACHLORIDE.

petroleum spirit, or shale spirit, and as far as the rubber trade is concerned, it is only used in small quantities, and mainly by those who are desirous of avoiding the fire risks associated with the hydrocarbon solvents. With regard to the future, it seems a safe surmise that the price will come down further. Owing to the various chemical manufactures in which the electrolysis of common salt or other chlorides is the main feature, there is an increasing amount of chlorine being produced, for which it is difficult to find a market. It cannot all be absorbed in the production of bleaching powder, and efforts are being made to increase the use of chlorine solvents as a way out of difficulty. In the United States carbon tetrachloride is now being made from chlorine produced electrolytically. The chlorine reacts upon bisulphide of carbon with the formation of carbon tetrachloride and a chloride of sulphur. The latter, I am informed, finds an application in the waterproofing of boots, though I imagine that it must be used in conjunction with some other material.

SINCE my former reference to this topic it has been officially announced that petrol means any spirit, whether derived from

THE BUDGET AND PETROL.

petroleum oil, shale or coal tar, which is used in motor cars. The hopes of the petrol substitute purveyors have therefore soon been dashed. In a recent conversation with a tar distiller I had some figures given me relating to the use of benzol in motor cars. Their purport was that benzol had been proved not only to be equal to petrol, but to be 25 per cent. superior. Benzol has been sold wholesale recently at as low a price as 4½ pence per gallon, solvent naphtha, by the way, also being quoted at a considerably reduced figure for contracts placed at the present time. My informant was strongly of opinion that benzol would soon come to be generally used as a motor spirit, and that in say two years from now rubber manufacturers who use benzol must not expect quotations at anything like those ruling at the present time. The main fact which operates against the increased use of benzol at the present time is that there are no regular distribution centers, as in the case of petrol. A

motorist knows that he can obtain petrol at numerous places on the route of any particular journey, whereas, if he started with benzol and ran short he could not depend upon getting further supplies. This present difficulty far outweighs the saving of a few pence per gallon, and until its distribution is adequately provided for we are not likely to see any great increase in its use.

It is with much regret that I mention the recent death of Mr. Arthur Carlton at Hanau, Germany. It is some time since I

PERSONAL MENTION.

met the deceased, who has been for some time at the Hanau works of the Dunlop Pneumatic Tyre Co., G. m. b. H.

Some twenty years ago Mr. Carlton entered the clerical department at Messrs. Charles Macintosh & Co.'s works, and went out to Barcelona, Spain, to look after a branch they had there at the time. On returning he occupied other posts in the manufacturing departments at the Cambridge street works, and then went to the Dunlop Rubber Works at Birmingham. Subsequently he joined Dr. H. Schumacher at the works he had for three years at Deptford, and when these closed down he went to the Dunlop works at Hanau. Shock following the amputation of a leg which he had injured was the primary cause of death.

Mr. William Coulter has left the Harburg-Vienna works at Wimpassing, Austria, and has taken up a position at the Hungarian Rubber Works, Budapest. A few years ago Mr. Coulter left England to start the elastic thread department at the "Prowodnik" works of the Russian-French India-Rubber Co., at Riga, but returned home when work was temporarily stopped by the sanguinary riots. As he remarked to me, it was unsatisfactory sitting in a vulcan pan when the works were being shelled from the street. Mr. Coulter has had other Continental experiences since he vacated his position of manager of the proofing department at Messrs. Charles Macintosh & Co.'s some fifteen years ago.

Mr. John Gomersall, who retired a few years ago from Messrs. Francis Shaw & Co.'s rubber machinery works, and has been acting as a consulting engineer, has been specially retained by the Irwell and Eastern Rubber Co., Limited, as engineer, and the new plant which has been put up at Ordsall lane has been under his supervision. This plant, which has been rendered necessary by the extension of the firm's balata belting business, is run by electricity obtained from the town mains. A great convenience associated with electric power is in connection with night work.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of value of exports of manufactures of india-rubber and gutta-percha for the month of May, 1909, and the first eleven months of five fiscal years, beginning July 1:

MONTHS.	Belting, Packing and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
May, 1909	\$145,704	\$69,202	\$303,849	\$518,755
July-April	1,225,882	1,139,271	3,165,096	5,530,249
Total	\$1,371,586	\$1,208,473	\$3,468,945	\$6,049,004
Total, 1907-08 .	1,225,618	1,486,959	3,443,465	6,156,042
Total, 1906-07 .	1,135,116	1,082,003	3,358,459	5,575,578
Total, 1905-06 .	1,119,010	1,425,324	2,685,511	5,229,845
Total, 1904-05 .	892,232	1,135,610	2,327,757	4,355,599

The exports for the current fiscal year compare with the corresponding eleven months in the preceding year as follows:

Decrease in boots and shoes.....	\$278,486
Increase in belting, etc.....	\$145,968
Increase in miscellaneous.....	25,480
Net increase	\$107,038

An importation of diving dresses at New York was held dutiable as manufactures in chief value of india-rubber.

India-Rubber in North America---A Bird's Eye View.

By Henry C. Pearson.*

CRUDE india-rubber and rubber-like gums to the amount of probably 170,000,000 pounds annually are used in the world's manufacture of rubber goods. Of this amount about 90,000,000 pounds, or more than one-half, are used by manufacturers in the United States and Canada. This in turn comes into the market in the form of finished goods of an estimated weight of 600,000,000 pounds. At first blush, when one remembers that the shrinkage of the raw product would amount to at least thirty-three per cent., this increase would not seem possible. It is, however, easily explainable when the uses to which rubber is put are considered, and its wonderful compounding and amalgamating principles are appreciated.

It is only rarely that the arts and industries call for much of resilience in rubber goods. The demand is for plasticity, for waterproof, airproof, oilproof, acidproof and wearproof qualities, all of which can be added through compounding. The compounding additions are reclaimed rubber waste, the annual consumption of which amounts to 124,000,000 pounds; of plastics, such as mineral rubber, 10,000,000 pounds, and so on. These added to crude rubber wonderfully increase its bulk and decrease its first cost, which otherwise would be prohibitive for many lines of goods. The next step in compounding is the addition of various metallic oxides, earths, and dry compounding materials, sometimes designed merely as cheapeners, but more often to bring out some quality essential to the line of product desired, powdered asbestos or infusorial earth, for example, being added as a heat resistant. Ingredients of this type amount to 200,000,000 pounds.

The third step in this compounding may be seen in the spreading of rubber upon fabrics. In many lines of goods the fabric weighs more than the rubber compound itself, as, for example, in rubber belting, and it may be figured roughly that the rubber trade uses 150,000,000 pounds of fabrics, this being chiefly in the lines of mechanical rubber goods, including footwear, tires and clothing.

Add to this the metals that go to make up certain goods, notably copper in insulated wire, and 600,000,000 pounds is a very conservative figure for a gross weight.

In their primary processes the various lines of rubber manufacture are almost identical in practice; that is in the washing and drying of the crude rubber and in mixing and forcing the compound into sheets for making up. Beyond that the business divides itself into wholly distinct industries that have their own lines of compounding, making up and vulcanization. These lines in the order of their importance are: Mechanical rubber goods, embracing belting, hose, packing and a great variety of specialties for engineering and industrial men; rubber footwear; tires, pneumatic and solid; insulated wire and insulating compounds; druggists' and stationers' sundries; waterproof fabrics, clothing and carriage cloth; hard rubber or vulcanite; dental and stamp rubber; rubber cements; sporting goods, including toys and golf balls; notions and specialties, such as dress shields, plasters, etc. Closely connected with all of these is the manufacture of reclaimed rubber from all kinds of rubber waste.

American practice has been, as a rule, to concentrate on special lines, rather than for any one factory to attempt to make all these lines. There are, however, some factories making two, three, or more of the above lines. The number of plants making rubber goods is about 260. Individualizing the lines, that is, in cases where a factory makes, say three lines, reckoning each as

three factories, there are 340. There are employed in these factories about 50,000 workers.

There is another class of small rubber manufacturer represented by those who buy unvulcanized gum and make, for example, rubber stamps. To this class belong the dentists, the small turners of hard rubber, and the tire repair man. One's first thought would be that these lines would be so small as to be hardly worth mentioning, but taking the rubber stamp business for example, there are 14,000 that have an investment in vulcanizers of at least \$100 each, or \$1,400,000; 30,000 dentists with an investment of \$50 each, or \$15,000; 1,000 tire repair men, with an investment of \$500 each, or \$500,000. As nearly as can be estimated the above lines represent about 12,000 men employed constantly in rubber work.

The distribution of the general lines catalogued above is done chiefly through branches and agencies established by rubber manufacturers and to an even larger extent through wholesale hardware, plumbing and mill supply houses, footwear jobbers and electrical supply houses. This gives employment to what may be expressed by the equivalent of 10,000 men.

There also centers about the rubber trade a number of industries that act as feeders to it. There are, for example, 100 machinery manufacturers which to a greater or lesser degree supply the trade. There are 40 to 50 producers of fabrics which make either the whole or a part of their cloth for rubber use and about 100 producers of compounding ingredients, such as sulphur, whiting, litharge, and the like. It will be seen, therefore, that in summarizing the business as a whole or the number of employes, all of these should be considered. The figures, of course, are only approximate, but it would be safe to assume that the rubber trade in North America employs 100,000 men, and that the capital actually employed is close to \$150,000,000.

Then, too, there are two interesting developments in crude rubber. One is the American investment of something like \$20,000,000 in rubber plantations in Mexico and Central America. The other is the equally interesting development of rubber from the guayule plant (*Parthenium argentatum*) in the uplands of Mexico, where there is American money invested to the amount of about \$30,000,000.

Rubber compounding practice is about the same the world over to-day. The Americans, however, have gone further in reclaiming and successfully using rubber waste than have the rest of the world. It is only a short time ago that quantities of rubber waste were used as fuel or thrown away. Then came the so-called mechanical process, where the waste was finally ground, the fiber blown out by an air blast, and the product formed into a pasty sheet through the so-called process of devulcanization. Later developments were various acid processes for destroying the fiber. Then came the alkali processes, the most notable of which was the Marks process, in which alkaline solutions of varying strengths are employed for destroying the fiber and also for removing free sulphur. By means of these varying processes every pound of rubber waste in the Americas to-day has a market value. Not only that, but the waste is turned into a plastic rubber compound nearly as good in every respect as the same compound was before vulcanization.

Another line of work that was in its beginnings wholly American was the treatment of such perishable gums as gutta-jelutong, or Pontianak. This, as a rule, is treated simply to keep it from oxidizing and to bring out its plastic and adhesive qualities. Some manufacturers, however, have gone further and by deresinisation have been able to secure a percentage of good rubber from it. A

*A paper presented at the Seventh International Congress of Applied Chemistry, in Albert Hall, London, on May 27.

number of the manufacturing plants have installed apparatus for the extraction of resins and the recovery of the solvents used, and have been successful in treating not only the gum named, but a great variety of medium and lower grade rubbers that carry large percentages of resin.

Although not a large business in the aggregate, it might be well to mention what the American manufacturers have done in the line generally known as dipped goods. By means of automatic machinery, new solvents and special compounding, together with a careful study and adaptation of the Parkes cold curing process, dipped goods, acid cured, have become a staple product.

The last ten years have seen a very notable change in the attitude of American rubber manufacturers toward the so-called rubber chemist. Where he was scoffed at or barely tolerated by the practical man a decade ago, he is to-day a valued and respected member of the general staff. All of the great factories have well-equipped laboratories with educated chemists in charge.

Of new developments in rubber manufacture there is no other that compares with the manufacture of automobile tires. It is really a new industry, increasing greatly from year to year. This year's estimate of \$20,000,000 is likely to be increased by one-half for another year. Indeed, it is probably in a short time the leading line of rubber manufacturer will be pneumatic tires.

In spite of the fact that American newspapers regularly discover "synthetic" rubber with never-failing enthusiasm, and investors buy synthetic rubber stocks, this grade of gum has not yet assumed statistical importance.

RUBBER SUBSTITUTES AND PLASTICS.

OF all substances in the three kingdoms of nature there has been found nothing which has the physical properties of india-rubber to an extent which will allow of its substitution for it in making a high quality of goods, but owing to its high price nearly every substance found in nature or manufactured has been tried alone or mixed with rubber in greater or less proportion. The substance which has been found to most closely resemble rubber in an artificial product is composed of an oil of vegetable or animal nature which contains an unsaturated fatty acid. These oils have what are known as drying properties; that is, they absorb oxygen from the air and become hard. This property makes them valuable for use in paints, and the best paint oils make the best rubber substitutes. In making the best-known substitutes the oil is sometimes previously "blown;" that is, it is highly heated and air is then blown through it. This has a tendency to stiffen it and make it more "drying" and renders it possible to use less sulphur or sulphur chloride to make the substitute, but it is not usually considered that as good a substitute can be made that way. If the white substitute is to be made sulphur chloride is used, but if dark substitute is required, then free sulphur is mixed, and the oil is highly heated till it hardens up to the proper consistency, or rather will harden on cooling. This product is probably the nearest substitute to india-rubber that can be made.

It has been made from all the drying oils, and particularly from corn oil, which is not a first-class drying oil, and from cottonseed oil and from oleic acid, which does not dry at all, but probably the value of oils for making substitutes bears direct relation to their value for paints. Of these oils linseed is usually considered the best, but the Chinese wood oil or "tung" oil has greater drying properties, and further has the remarkable property of hardening to a jelly when heated to 400° F. This jelly is insoluble in all ordinary solvents. This property does not seem to have been taken advantage of as yet.

In addition to the large number of bodies made in a general way as above, and having their value from the properties of a sulphonated oil, a large number of so-called substitutes have been used, although they are hardly more than fillers or adulterants.

Of considerable importance are the plastics. These are of

several varieties, of which pyroxylin is important. If cotton or other form of cellulose be treated with nitric acid and a dehydrating agent like sulphuric acid, and the treatment is continued for different lengths of time, and with different proportions of chemicals and the other conditions of manufacture are varied, a number of varied products will be formed where the products which are the least nitrated are more soluble than others resulting from longer treatment. The strongest treatment produces guncotton, but a weaker treatment produces pyroxylin, which is soluble, and when mixed with solvents and camphor, the camphor is absorbed, forming the common product known as celluloid, which is one of the most useful plastics. It is not stretchable, however, although in the scientific sense it is elastic. That is, if bent it returns to its original form. This product forms the basis of another class of substitutes and is mixed with rubber in all proportions.

Cellulose products form another class of plastics. Cellulose, which is the basis of most vegetable fiber, can be made into the colloidal form by several processes and by forming several chemical compounds with it. Of course, the pyroxylin previously mentioned is a cellulose product, but another plastic or a colloidal form of cellulose is known as viscose, or rather its water solution is so known. If a strong alkali is boiled with cellulose and then carbon bisulphide is added, a solution with water is formed. This watery solution is known as viscose and on drying the cellulose is in colloidal form. Viscose has been the subject of much chemical and other experimental work, and large amounts of capital have been invested in the manufacture of fibers from it to produce artificial silk, but it has not yet largely come into use. It is, however, a plastic with a promising future.

Another class of substitutes have glue as a basis. Glue or gelatine has the property of being hardened and rendered water-proof by chromic acid or acid chromates or bichromates. This substance or the mixtures which produce this substance form another extensive class of substitutes which are the basis of many patents. Formaldehyde has the same properties of hardening glue and this produces a somewhat similar plastic.

Another plastic consists of casein or that part of milk which forms cheese. Casein has the bad feature that there is no way to free it entirely from water in the process of manufacture, and when this finally dries out after long use the product develops cracks and becomes brittle.

Of the tars, asphalts, pitches and mineral waxes there is a large number which have been proposed in all forms and in all quantities, but these should be regarded more as compounding agents than as substitutes. Of the other classes it is not worth while to classify them as substitutes, but they are either compounding ingredients, which are useful as imparting to rubber properties it does not possess of itself, or they are pure adulterants.

H. O. CHUTE.

New York, July 9, 1909.

WILL RUBBER GO TO \$2.70?

A HANDY little book of "Parity Tables" of crude rubber prices brought out by a friend in the trade a few years ago proved of great convenience in THE INDIA RUBBER WORLD offices—as for instance in comparing quotations in shillings per pound with francs per kilogram. The book proved less helpful, however, when the price of fine Pará went above the limit for which its computations had been made—i. e., 5 shillings 6 pence [= \$1.33.8] per pound. Then a similar book, from another source, was helpful for a while longer, having been computed for prices up to 6 shillings [= \$1.46]. But even this has become a "back number," and we welcome a comparative sheet got out by the *Gummi-Zeitung*, in which the figures run up to 25 marks per kilogram [= \$2.70 per pound]. It is, of course, not intimated by the compiler that this limit will be reached, but there are persons in the trade who would not be surprised if it were.

The Late Robert D. Evans.

WHILE the late Robert D. Evans, of Boston, had not been actively interested in the rubber industry for a dozen years, his relation to it for more than half his life was so important and so extensive as to call for a record at length in a journal devoted to the trade, now that the time has come for writing the story of his life. As a result of being thrown from his horse at his summer home at Beverly, Massachusetts, Mr. Evans was taken to the Massachusetts Homeopathic Hospital, where he died on the evening of July 6.

Robert Dawson Evans was born September 30, 1845, in Boston, to which city his family had removed from St. John, New Brunswick. After having been graduated from the English High School he found employment as a clerk for the Hall Rubber Co., in Boston, of which Henry A. Hall was the proprietor. At that time Charles M. Clapp, further to be mentioned here, was the bookkeeper in that house. When the civil war came on, young Evans enlisted in the Thirteenth Massachusetts Volunteers, which joined the Army of the Potomac. He was twice wounded in service. After the war Mr. Evans went into the employ of Mr. Clapp, who had become a rubber manufacturer, operating the Aetna Rubber Mills, at Jamaica Plain. In 1870 he and Levi Ladd became partners in the firm Clapp, Evans & Co., which continued to operate the Aetna mills.

Mr. Evans left the firm in 1872 and formed the Eagle Rubber Co., which established a small factory. Associated with him was George H. Hood, who left in 1878 to form the Boston Rubber Co., and Henry W. Burr, who was superintendent and later went in a similar position with the Para Rubber Shoe Co. Mr. Burr had been some time at the Aetna mills. The story is that Mr. Evans had become the principal owner of the Moulton patent on wringer rolls, which was strongly attacked by parties in New York, and that Mr. Clapp, fearing that the patent could not be sustained, was averse to helping to support it. The Eagle Rubber Co., therefore, was organized to carry on the manufacture of wringer rolls, the patent litigation over which ended in favor of Mr. Evans.

In 1873 the American Rubber Co. was organized, by Mr. Evans, strictly as a jobbing concern, selling the products of the Eagle company and taking the agency for the Meyer Rubber Co., footwear manufacturers. The two companies were consolidated and in 1877 a large factory was established at Cambridgeport and the manufacture taken on of rubber footwear and mackintoshes. This factory was burned in December, 1881, and Mr. Evans demonstrated perhaps more strikingly than at any time before his capacity to overcome difficulties, by the prompt rebuilding of the factory and the resumption of business.

When the United States Rubber Co. was organized, through consolidating a dozen factories, the American Rubber Co. was one of the most important concerns embraced. Starting with \$200,000 capital, the American company had acquired capital and surplus amounting to \$3,500,000, and its productive capacity was rated at \$3,500,000 a year. The United States Rubber Co. was distinguished by being the largest industrial corporation that had then been formed in America. Its authorized

capital was \$50,000,000 and the original issue \$26,947,000. Although the companies combined under its charter were older than the American Rubber Co., and most of them headed by men who had longer been in the industry, Mr. Evans was the unanimous choice for the office of president, to which he was elected October 15, 1892. In addition to filling this office, his position in the corporation was that of director of the purchase of raw material and manufacturing, just as Colonel Colt was legal director and Mr. Flint director of finance.

When it seemed desirable later to widen the scope of the United States Rubber Co., by further amalgamation of the trade, the presidency was offered to Joseph Banigan to gain his adhesion to the plan, and he filled the office for several years, resigning on March 4, 1896. Mr. Evans was at that time first vice president and general manager of the company and succeeded to the presidency, to which he was reelected for a full term. All was not harmony in those days, and Mr. Evans declined reelection in 1897. On June 6, 1898, when he retired from the presidency of the American Rubber Co., which had retained its corporate existence meanwhile, and of which he had filled the head office for nineteen years, it became known that he had severed his connection with the rubber industry. It was common report that his large holdings in the United States Rubber Co. had been purchased by a syndicate headed by James R. Keene, whose successful disposal of the same was long an interesting story in Wall street.

The proceeds of Mr. Evans's rubber shares he invested successfully in mining stock, at first in copper. He was influential in the organization, in 1899, of the United States Mining Co., operating in Utah, of which he was at one time president. The company is now controlled through the ownership of the majority of its stock by the United States Smelting, Refining and Mining Co., organized in 1906 with \$75,000,000 capital. Mr. Evans until just before his death was a director in



THE LATE ROBERT DAWSON EVANS.

each. He was currently reported a few months ago to have sold the larger part of his shares in the latter company for \$4,650,000 in cash. Mr. Evans was one of the principals in the Yuba Consolidated Gold Mines Co., a gold dredging enterprise in California, organized by him and capitalized at \$12,000,000. His dividends from this company are mentioned as having been \$650,000 a year, and his income from the copper companies enough more to make a total of \$1,000,000 a year.

Mr. Evans was interested in other companies than those named, including the Boston-Bolivia Rubber Co., engaged in forest rubber exploitation in South America, and in a rubber planting enterprise in Mexico. Since the filing of his will for probate, at Salem, Massachusetts, his estate, left wholly to his widow, has been estimated at \$12,000,000.

Mr. Evans was a resident of Boston except while holding the office of president of the United States Rubber Co. On removing to New York for the first time he sold his house on Beacon street, Boston, to Mr. Elisha S. Converse. Later he owned a notable residence at No. 17 Gloucester street, corner of Commonwealth avenue, in which he formed a collection

of works of art which is regarded as one of the best in the country. His interest in art led to his election in June, 1907, as a trustee of the Boston Museum of Fine Arts. By way of recreation Mr. Evans was interested also in yachting and horsemanship, and he was a member of a number of clubs.

This item will be found in THE INDIA RUBBER WORLD, June 15, 1890 (page 201): "R. D. Evans, president of the American Rubber Co., has purchased a summer residence at Beverly, Massachusetts." From that time Beverly was the summer home of Mr. Evans and his family. The estate there was greatly improved by him and became one of the finest on the Massachusetts coast. To his home he gave the name Dawson Hall. Later he purchased the neighboring Stetson estate on which is the cottage illustrated in THE INDIA RUBBER WORLD, June 1, 1909 (page 314), as having been leased from Mr. Evans as the summer home of the President of the United States. It was while riding through a bit of woods attached, with a view to getting the place in readiness for President Taft, that Mr. Evans met with the accident which proved fatal.

Mr. Evans married Marie Antoinette, a daughter of David Hunt, once prominent in the rubber footwear trade. At one time Mr. Hunt was a partner of Elisha S. Converse, in Converse & Hunt, a firm organized as selling agent for all the rubber shoe factories. Later Mr. Hunt was selling agent for the Meyer Rubber Co., the connection with which Mr. Evans has been mentioned already. Mrs. Evans survives. Her mother and her two sisters, unmarried, have made their home with her for many years.

Funeral services were held at the late residence of Mr. Evans on July 9, conducted by the Rev. Charles Towne Billings, of the First Unitarian Church, of Lowell, Massachusetts. The interment in the family lot at Forest Hill Cemetery was private.

Mr. Evans was temperamentally a fighter. He was built for battle both physically and mentally. He was a much larger and heavier man than he appeared to be. Apparently he was a trifle over medium height, but really he stood over six feet, but was so proportioned and heavily muscled that he appeared short and smaller than he really was. It has often been remarked that it was a wonder that a man of his ability could have served in the ranks as a soldier and not risen to be at least a colonel. It was explained in part, however, by his impatience of restraint. Like a high-mettled horse, he fretted constantly under the curb and would not be broken. This same impatience and resentment at opposition was more or less present in his business life, but as he grew older he grew more lenient and more tolerant.

He was wonderfully sincere in his friendships and generous in his charities. Outside of business his great passion was his love of art. Indeed, he was a connoisseur of no mean ability, and his beautiful home in Boston had gathered many of the gems of old masters. He was always a striking figure and one of such pronounced individuality that he attracted attention in any circle.

A friend of Mr. Evans is quoted by a Boston paper as saying: "He was a direct descendant of Lord Dawson, at one time premier of England, and his beautiful Beverly estate was named Dawson Hall in honor of his ancestor. His art collection, which was his great pride, will probably go to the Museum of Fine Arts as an Evans memorial."

TRIBUTE OF THE NEW ENGLAND RUBBER CLUB.

DEATH having removed from our midst our friend and Honorary Vice President, ROBERT D. EVANS, we, a committee representing the New England Rubber Club, herewith record our profound grief through the medium of the following resolutions:

Resolved, That in the passing away of Robert D. Evans the rubber trade at large and the world of American business lose one who was a great and successful leader. Born in humble circumstances, with no aid other than a talent for organization and unflagging industry, he fought his way upward, overcoming obstacles that would have daunted a less courageous soul, until at middle life he was successful, rich, and free from business cares. In perfect health, with the promise of years of well earned enjoyment before

him, an untimely accident closed a career that is woven into the fabric of the great industry with which his name is most intimately associated.

Resolved, That in his death we have lost one of the notable figures in our trade, and one of the most respected officers of our organization. Alert, aggressive, vital, full of the spirit of American progress, a firm friend, a discriminating yet enthusiastic patron of art, his place in our hearts and in our industry must long remain unfilled.

Resolved, That this brief tribute be spread upon our records, and a copy be engrossed and presented to his family, to whom we extend our profound sympathy.

G. P. WHITMORE,
E. E. WADBROOK,
A. M. PAUL,

Committee on Resolutions.

JOSEPH DAVOL.

JOSEPH DAVOL, president and treasurer of the Davol Rubber Co., and for a quarter of a century a prominent figure in the business and financial life of his home city, Providence, Rhode Island, passed peacefully away at his home, No. 48 Parkis avenue, on July 5. Death was caused by a complication of diseases directly affecting the heart, from which Mr. Davol had been



THE LATE JOSEPH DAVOL.

suffering for some time, but which only obliged him to cease active work four months before the date of his death.

He was born in Warren, Rhode Island, June 28, 1837, and had therefore just passed his seventy-second birthday. He was the son of Joseph Bowen and Mary Little (Saunders) Davol, both natives of Warren. He was educated in the public schools at Warren, and was graduated at an early age from the Warren High School. After completing his education at the Warren school he went to New York, where with his brother he became associated with one of the largest and best known wholesale dry goods houses in New York city in its day. While connected with this house Mr. Davol made his home in Brooklyn.

Possessed of remarkable business acumen for so young a man, Mr. Davol was one of the first to foresee the possibilities in the rubber manufacturing business, this being then in its infancy, and presenting a broad field for development. The opportunity presented itself in 1870, in which year Mr. Davol formed a partnership with Daniel C. Perkins, of Providence, and established present plant of the Davol Rubber Co. The business had only lished a small factory on Point street, near the site of the

present plant of the Davol Rubber Co. The business had only become fairly started when Mr. Perkins withdrew, and soon afterward died, and Mr. Davol struck out alone. He kept at it alone until his sons were old enough to share in the business, steadily increasing the size of his plant, improving machinery, and making a name for himself and his product, which is now so widely known throughout the business world as the Davol Rubber Co.

Under his careful guidance the Davol Rubber Co. has grown to be the largest plant of its kind in the world, its product being sold in the markets of every civilized country, and the name "Davol" has come to be the standard of excellence in that line. Up to the time of his last illness, Mr. Davol maintained an active interest in the affairs of the company, of which he was president, treasurer and principal owner, the company's stock, with the exception of a very few shares, standing in his name and the names of members of his immediate family. This company as originally started having always remained a close corporation.

Mr. Davol married Mary Eliza Turner, of Providence, who survives him, as do also his two sons, Charles J. Davol, the general manager and one of the directors of the Davol Rubber Co., and George A. Davol, who is now living in Boston.

In the business life of the city, Mr. Davol was always an important factor. He was undoubtedly one of the most prominent among that passing generation of men who were pioneers in their work, and who gave the city the reputation and standing it has in the business world. He was also well known in the business and financial circles of Boston and New York. He was a director in the Industrial Trust Co., the Phenix National Bank and a member of the board of trustees of the Rhode Island Safe Deposit Co., and identified with many other corporations and institutions, both business and financial. He was a member of the Hope, the Art and the Squantum clubs, though he was seldom seen at either, because of his preference for the quietude of home life.

He was of a retiring nature, and cared little for public life, and many times declined attempts to bring him before the public eye. His charities were liberal and wide, and always unostentatious. A quiet, courteous, kindly and most lovable man was Joseph Davol. The false and insincere bored him exceedingly, but he showed it only by a look of weariness that was more eloquent than a spoken reproof. Some four days before his death, speaking to a close friend he said, "During my life I have not knowingly wronged anyone." That this was an honest claim, all of his friends and associates will testify, and more than all else this stands as the greatest and most enduring of his successes.

TRIBUTE OF THE NEW ENGLAND RUBBER CLUB.

WHEREAS: Our fellow member, director, and friend, JOSEPH DAVOL, has passed to the "Great Beyond" we, the New England Rubber Club, with sorrowful hearts, have framed the following resolutions:

Resolved, That in the death of our friend the rubber trade and our association have suffered a great and irreparable loss. Quiet, reserved, genuine, averse to publicity of any nature, he was yet a progressive, able business man, a sane and sound adviser, and one whose aim was to deal justly and generously with all with whom he came in contact.

Resolved, That this expression of our appreciation of the departed be spread upon our records and a copy be engrossed and presented to his family.

GEORGE P. WHITMORE,

E. E. WADBROOK,

A. M. PAUL,

Committee on Resolutions.

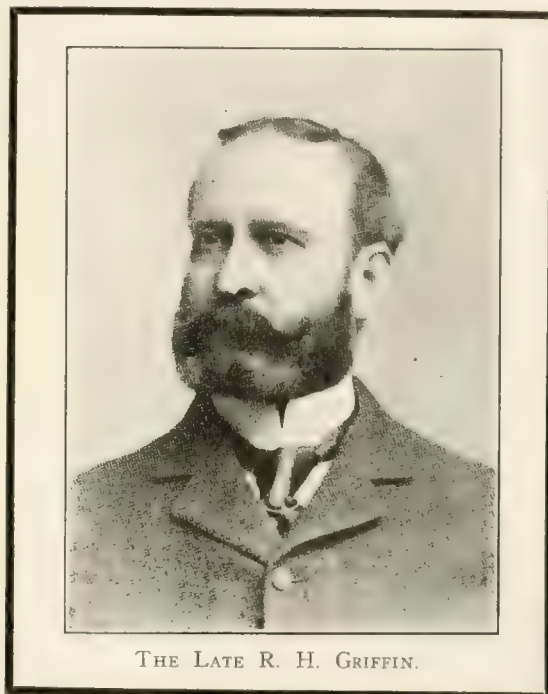
J. C. PIERREZ.

JESSE C. PIERREZ, of the rubber goods trade in New York, died suddenly of heart disease at his home in that city, No. 387 Convent avenue, on July 22, in his fifty-fifth year. Mr. Pierrez was born in Hoboken, New Jersey. For many years he was in the employ of the Goodyear Rubber Co., after which he engaged in business for himself. He was manager of the Peoples Hard Rubber Co. (Akron, Ohio), and after its absorption by the

American Hard Rubber Co. he organized in New York the Pierrez Rubber and Supply Co., jobbers of rubber goods, incorporated October 10, 1904, of which he was the president to the end of his life, with offices at No. 69 Warren street. He leaves a widow, who was Miss Adeline R. Van Pelt, daughter of the late William R. Van Pelt, for many years superintendent of the New York postoffice.

R. H. GRIFFIN.

R. H. GRIFFIN, who died at his home in Philadelphia on June 28, in his sixty-ninth year, was a native of Baltimore. When quite a young man he removed with his father to Boston, and was associated with him there in the footwear trade. Later he became identified with the Boston selling agency of the New Jersey Rubber Shoe Co., then under the management of E. B. Preston. Next he was appointed New York selling agent of the same company—a position which he occupied when the New



THE LATE R. H. GRIFFIN.

Jersey company was merged into the United States Rubber Co. Mr. Griffin remained with the United States Rubber Co. for several years. When the New Jersey factory was converted into a bicycle tire plant he took charge of the sale of the new line of production, continuing so until 1900, when he took charge of the rubber department of Weimer, Wright & Watkin Co., large wholesalers of footwear in Philadelphia. This position he held to the end of his life. Mr. Griffin was a most capable salesman. He made friends naturally and easily and seldom an enemy.

JULES A. BELANGER.

JULES AMÉDÉE BELANGER, the head of Belanger's, Incorporated, died at his home in Bluefields, Nicaragua, on June 11, in his forty-fifth year, after having been in ill health for several months. Mr. Belanger, who was a native of Canada, went to Bluefields at an early age and became associated with an important mercantile house in which a relative was partner. He grew to be the head of the business, and became an eminently successful man of affairs. He was the founder of the banana industry in Nicaragua, was influential in developing the goldfields, and latterly took an active interest in rubber culture. He had been British vice consul since 1885. The honorary pallbearers included the local governor, the British consul, the American vice consul, and Mr. Gordon Waldron, of the local rubber planting interest. The death of Mr. Belanger was widely mourned in Bluefields. A fuller sketch and portrait of him appeared in THE INDIA RUBBER WORLD, March 1, 1906 (page 192).

Rubber Interests in Europe.

THE North British Rubber Co., Limited (Edinburgh), have decided to organize at Berlin an independent joint stock company, which is to operate in the German, Austro-Hungarian and Roumanian markets, not only in the line of rubber and canvas shoes, as hitherto, but likewise in rubber mechanical goods, automobile tires and the like. A circular issued by the North British company and the firm of Max Scherer & Co., of Berlin, announces that the latter has by mutual agreement resigned the agency of the said company. The new company, which is to have its main office in Berlin, will be under the management of Josef Scherer, who for many years has been associated with the firm of Max Scherer & Co., and of Alfred E. Baker, of Edinburgh. The firm of Max Scherer & Co., of Berlin and Vienna, will likewise continue in business, devoting itself henceforth exclusively to the sale of the products of the Helsingborger Gummifabriks Aktiebolag (Helsingborg Rubber Works Co.), of Helsingborg, Sweden, the said firm having had since 1896 the exclusive sale of these goods in Germany, Austria-Hungary and the Balkan countries.

The new business arrangement of the Edinburgh company will be carried out under the style North British Rubber Co., Aktiengesellschaft, Berlin-Wien. The Berlin office is Neue Friedrichstrasse 9-10.

REFERRING TO PROTECTION V. FREE TRADE.

A BERLIN dispatch to the London *Standard* states that the North British company have opened a large office in Berlin in place of their former agency, and will erect a factory there in order to avoid payment of the heavy import duties imposed to foster the German industry. It is stated that the North British company are in hope of competing not only with German manufacturers, but with the Russian rubber shoe trade in Germany, which continues large. The correspondent of *The Standard* comments as follows:

"This action on the part of the company is one more proof of the way in which the free trade government of England drives capital from the country and takes the bread out of the mouths of workmen of a country working under its old-fashioned, out-of-date methods, whilst a scientifically tariff protected country, as Germany is, not only attracts capital, but new industries, affording employment for its workmen. German manufacturers can export their products, with very few exceptions, into England duty free, hence they are quite content to work their factories in Germany, maintain a small office in London and other commercial centers throughout Great Britain, where their agents can reap a rich harvest of orders, with the result that they make huge profits. English manufacturers wishing to do business in Germany, on the other hand, everywhere find themselves excluded by high tariff walls. If they really desire to do trade in Germany they find it imperative to set up their own factories within the German empire. This fact the Americans have long recognized, with the result that many American concerns have opened their own factories in this country."

FORTY YEARS WITH ONE RUBBER COMPANY.

THE recent celebration of the fortieth anniversary of the connection of Herr Jean Hagelsieb with the Vereinigte Berlin-Frankfurter Gummiwaren-Fabriken led to the publication of some details of interest relative to the history of this important company, which are summarized herewith. The original factory was established on a small scale, on the banks of the Spree in 1849 (just 60 years ago) by Mr. Elliott, an Englishman. The business underwent various changes before the organization of the Berliner Gummiwaren-Fabrik Aktiengesellschaft, with 670,000 marks capital, December 18, 1883. Meanwhile a rubber factory

at Frankfort o/M was reorganized (in 1870) and removed to Gelnhausen. In 1886, by which time the latter had come into possession of Wendt, Buchholz & Co., the two establishments were consolidated under the present style, Vereinigte Berlin-Frankfurter Gummiwaren-Fabriken. The original capitalization was 1,000,000 marks, which has been increased gradually to 3,500,000 marks [= \$833,000], on which the yearly returns of late have been 9 per cent. Recent stock exchange quotations have been 139. When Herr Hagelsieb joined the staff of the Berlin factory, June 16, 1869, the latter was owned by C. Bolle. He has since been at the head of the office and financial department, through the various changes here outlined. Herr Hagelsieb is now in his sixty-eighth year, and bids fair to live to celebrate his golden jubilee with the company. Herr Emil Spannagel, often mentioned in THE INDIA RUBBER WORLD, has now been at the head of the Berlin-Frankfurter company for 16 years.

NORWAY—LABOR TROUBLES ENDED.

THE labor troubles from which the "Viking" Gummivare-fabrik and the Aktieselskabet Norsk Galoche- og Gummivare-fabrik in Mjödalen, near Drammen, have suffered since November 14, 1908, and January 1, 1909, respectively, have now been settled by the signing of an agreement on the basis of a new scale of wages, which is to be in force until January 1, 1912. Work was resumed on June 14.

DENMARK—A SWEDISH BRANCH.

THE Aktieselskabet Helsingborgs Gummifabriks Aktiebolagets Udsalg ved John Prange has been registered at Copenhagen, with a capital of 30,000 kroner [= \$8,040], fully paid. Under the firm name, John Prange & Co., hitherto has been conducted the exclusive sale in Copenhagen of the rubber footwear made by the works at Helsingborg, Sweden. The managers of the new branch are H. Chr. L. Dunker of Helsingborg, John Prange and W. J. Honum of Copenhagen.

THE "SILVERTOWN" COMPANY'S MEETING.

At the half yearly meeting of the India Rubber, Gutta Percha and Telegraph Works Co., Limited (London, June 15), the chairman said that during the past six months there had been a considerable change in the market for raw material. In December last the price of fine Pará rubber was 5s. 0½d. per pound; now the quotations were about 6s. per pound, and the medium grades had also advanced in sympathy. To protect themselves the company, in common with the principal manufacturers, had advanced the selling prices of their general goods, and would doubtless have to advance the price of their special goods, as contracts fell in for renewal. It was unfortunate that the last quarter of their financial year should have this advance in selling prices to face, and it would to some extent diminish their sales during this period, and lessen the substantial percentage increase in their sales which they had experienced during the three-quarters just terminating. Their tire and tiling branches had been well maintained. The customary *interim* dividends were declared.

RUBBERIZED BALLOON FABRICS.

THE development of aerial navigation has led to great activity in the rubber industry in the production of rubberized fabrics for balloons, aeroplanes, and the like. Already THE INDIA RUBBER WORLD has mentioned at length the production of such fabrics by Continental Caoutchouc und Guttapercha-Compagnie, of Hanover. Three other German rubber factories may now be mentioned as having engaged in a practical way in making goods of this class: Etablissements Hutchinson, at Mannheim; Franz Clouth, Rheinsch Gummiwaren-Fabrik m. b. H., at Cologne; and Aktiengesellschaft Metzeler & Co., at Munich.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT

WHEN a dealer in rubber goods commences to express his opinion with regard to business and financial conditions in San Francisco and on the coast during the past month he almost invariably says that conditions have been exceedingly bad. He says that business is dead, that there is no demand for anything and he wonders what can be the matter because he has never seen things so quiet in this territory. After thinking the matter over he tempers his remarks, saying that he has been doing something right along, but that business is not active and is far from what it should be. Again he is apt to say that it is just about what should be expected at this time of the year, or, that he expected dull times this summer, following the financial stringency through which the whole country has passed. He is apt to say that aside from a few retailers in certain mercantile lines who have moved down town in San Francisco where they are paying such high rents that they can hardly make ends meet, that nowhere on the coast is there anybody who is actually suffering, and all of the rubber dealers believe that the fall season will witness the commencement of an active healthy business. The present conditions are rather disagreeable and unpleasant than hard, because there is no great suffering and everybody can hold out until fall at least. What makes it hard to understand is that people should be so unprogressive and so unwilling to advance money for improvements and live business operations when all outside conditions including big crops, for which there is a healthy market, a growing and rapidly developing country, and a large commercial business seems so fully to warrant busier times. The tariff question interests Western people almost not at all, and they think that there is plenty of money here on the coast.

The Phoenix Rubber Co., one of the new firms in San Francisco, report that they have been rather busy during the past month, due largely to the tire business which they have been favored with. This firm has succeeded in gaining a firm foothold in the trade during stringent times, so that they are confident of making a good success when conditions get back to normal again. Mr. Ralph states that the tire business has been particularly active. The big lumber mills which have been closed down are showing some signs of activity now, some opening for active operations, which promises well for the mechanical goods trade.

Mr. Ralph pointed to the railroad development work going on here as showing the confidence which the big railroads have in the city. Seattle and Los Angeles have grown to be large cities, but there is room for big cities located as they are without interfering at all with the development of San Francisco. When the Panama canal is in operation this bay will be the center for a tremendous ocean traffic. The farmers through the state have had one of the most ideal and prosperous seasons. These are a few of the things, said Mr. Ralph, which will lead to a renewal of business confidence and activity.

The Bowers Rubber Works are about to establish a distributing warehouse in Los Angeles for the greater convenience of their customers in the southern part of the territory.

Mr. Joseph V. Selby, Pacific coast manager for the Boston Woven Hose and Rubber Co., states that he considers the outlook for fall business very favorable, in view of the bountiful crops and the satisfactory prices which the producers will receive.

The garage owners of Alameda county held a meeting lately for the purpose of aiding in the formation of the national organization of garage men who are organizing for the purpose of securing great concessions in the price of tires. The idea of the garage men is that if they get all of the garage people in all of the states to form a purchasing organization they will be able to import tires from Europe, and after paying the duty, still make the prices lower than now.

Mr. George Sweeney, of Eccles & Smith Co., and Mr. Henry

Martine, manager of the Gutta Percha and Rubber Manufacturing Co., are among the Elks who attended the grand assemblage of Elks held in Los Angeles recently.

L. L. Torrey, manager for the Pennsylvania Rubber Co. in San Francisco, states that business continues to be good enough considering the times, and that collections are holding up fairly well.

Mr. Winslow, manager for the Pacific Coast Rubber Co., reports that business is just about what everybody had expected at this time of the year, and consequently were prepared for—that is, quiet.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE fact that manufacturers' profits were threatened by the unprecedented rise in the prices of crude rubber is advanced by Akron tire men as the reason for the advance in the prices of tires which went into effect with all of the principal tire companies on July 16. It was affected uniformly after several conferences in Akron and Cleveland between representatives of the various companies. The new consumers' prices are almost identical in the lists of the different manufacturers. The increase amounted to 15 per cent. in most cases, and more in others.

Tire manufacturers here are inclined to ascribe the rise in the crude rubber market in good part to the remarkable demand for mechanical rubber goods that has become apparent within the last few months. As compared with the slack conditions in this branch of the trade following the depression of last year, the present increase comes as a reaction. Factories are working with night forces to fill orders for hose, packing, and other mechanical goods used in various industries. This demand is looked upon as a sequence to the resumption of activity in factories in all branches of industry.

The B. F. Goodrich Co., with a view to future expansion of their factory, purchased recently a tract of four acres on Main street, adjoining the plant on the north. The land was bought from the Brewster Coal Co., and has 440 feet frontage on the street. Part of it extends to the canal in the rear. There is room on this land to increase the size of the Goodrich factory nearly 50 per cent.

Frank R. Tate, formerly of Akron, has resigned as manager of the St. Louis branch of The B. F. Goodrich Co., and will enter the automobile business. No successor has been appointed as yet, but the business of the branch is being conducted by the assistant manager, J. A. Peterson.

The B. F. Goodrich Co. have issued a convenient "Trip Record Book" for automobilists. It has spaces for records of time, automobile and speedometer readings, the conditions of roads, hotels, garages and experiences with tires. Opposite each record page is a blank page for memoranda.

Mr. Joseph W. Kelly, who resigned two years ago as a department manager in the B. F. Goodrich Co., returned on June 28, after living two years in Europe with his family. He will make his home here temporarily.

Mr. J. T. Hart, formerly with the La Crosse Rubber Mills (La-crosse, Wisconsin), has been secured by The Diamond Rubber Co. to head the establishment and organization of the new boot and shoe factory. Mr. Hart had experience with a number of other rubber companies before he held a position in the Lacrosse company. Officers of the Diamond company are still unprepared to make any definite announcements regarding the details of the new factory, but expect to have the new goods on the market shortly after January 1. The new building has been under way some time.

The Diamond Rubber Co. are placing on the market an innovation in the form of a double tube motorcycle tire. Heretofore the company have made only single tube tires for this class of

vehicle. The new product is constructed on a design similar to that of a light automobile tire. It has deep corrugations on the tread to prevent side slipping. "The demand for motorcycle tires is growing rapidly," said an official of the company, "the auto shows last winter gave motorcycles more attention than ever before and during the coming season the shows will have regular divisions for their display."

A new product in The Diamond Rubber Co.'s line is an improved demountable rim. The improvements over the 1909 model consist of a change in the rim so that it can be fitted to the felloe of any automobile wheel of regulation construction, and the elimination of the mortised groove in the felloe to admit the valve stem.

The Diamond Rubber Co. will open a branch house in Atlanta, Georgia, on September 1, at No. 48 Auburn street. It will be in charge of Mr. Wiley West, who has heretofore represented the company in the South, traveling out of Mobile.

Mr. Ohio C. Barber, a director of The Diamond Rubber Co., sailed on July 14 for Europe, where he will spend the summer with his son-in-law and daughter, Dr. and Mrs. A. D. Bevan, of Chicago, touring by motor through various countries. This is Mr. Barber's forty-third trip to Europe. He intends to purchase a herd of cattle while on the continent to bring to his farm near Akron.

Trouble has been encountered by the city street department recently by the clogging of sewers in the vicinity of rubber factories with particles of rubber which leak through the sieves during the washing process. A serious overflow of the sewer which occurred in the Firestone plant, June 21, was traced to this cause.

Tire makers are awaiting action of the Motor and Accessories Manufacturers' Association before taking steps to be represented at the opening show of the season in Atlanta, Georgia, November 6-13. It is expected that the association will approve the show. It will be one of the large automobile events of the year.

Companies making solid tires in this city expect to be represented at the International Convention of Fire Chiefs in Grand Rapids, Michigan, August 17-20.

The Falls Rubber Co. recently organized in Cuyahoga Falls, Ohio, has purchased the rights of manufacture of a patent rubber horseshoe pad. A line of automobile tires will also be among the products of the new concern. H. A. Post, formerly of Buffalo and Denver, will be sales manager. On account of his removal to Toledo, J. N. Weid leaves active participation in the company and the officers have been changed to the following: Dr. S. H. Sturgeon, Akron, president; W. G. Short, Akron, vice-president; H. F. Siegrist, Akron, secretary and treasurer; William Sherbondy, Akron, superintendent. The offices will be located in Akron. The new plant in Cuyahoga Falls is under roof.

Salesmen traveling into Akron are interested to learn that the Akron Hotel Co. was organized in this city July 14 to build a \$350,000 hotel here. The project is backed by the Chamber of Commerce, and business men expect to see construction started in 60 days.

The population of Akron is 70,354 according to a conservative estimate based on the count in the 1909 city directory published during the last month. This shows an increase of 7,000 during the last year, a large part of it due to the expansion of Akron rubber factories.

AMERICAN EXPOSITION IN BERLIN.

AN American exposition is to be held in Berlin during the months of April, May, and June, 1910, under the patronage of prominent citizens in Germany and the United States, with the idea of making it of permanent benefit to both nations. It is stated that it will enjoy the lively interest of the German emperor, as well as of many prominent persons in the empire. The American advisory committee embraces a number of representative business men in various branches. American head-

quarters have been opened at No. 50 Church street, New York, under the management of Mr. Max Vieweger.

RUBBER STAMPS FOR THE GOVERNMENT.

THE manufacturers of stamp rubber have issued new lists showing a marked advance in prices, due to the higher cost of crude rubber. On June 21 bids were opened for supplies for the United States postal service for the fiscal year beginning July 1, 1909, including an unusual number of rubber stamps. It appears that the prices at which contracts were awarded were the lowest in the history of the trade. The bids were made, it is true, before the announced advance in stamp rubber, but at a time when the cost of crude rubber had become much higher than twelve months before. The *Stamp Trade News* (Washington) criticises the policy of stamp makers in supplying government goods at prices which make profits impossible. It says that three years ago a New York firm which secured the rubber stamp contract at higher prices than those of the successful bidder this year, claimed to have lost heavily and declined thereafter to bid. The *News* says: "In days gone by it was worth the while for a contractor to bid at cost on some items for what they termed 'prestige,' but those days have passed, for there are no 'pickings' to be had any more. - - - Let it be hoped that after twelve months of grinding out stamps at no profit, wearing out their machinery and wasting their energy, government contractors by this time next year will get some sense knocked into their cocoanuts."

Two branches of the government service have equipped rubber stamp making outfits, presumably not with a view to saving money so much as to enable them to fill promptly orders for stamps for special work which may be speedily wanted. They are the office at Ogden, Utah, of the forest service of the department of agriculture, and the Isthmian Canal commission, at Panama.

A WIDER USE FOR RUBBER STAMPS.

A CIRCULAR issued from the United States treasury department under date of April 12 said:

"There having been a marked improvement in the stamps heretofore used and in the quality of the ink used on pads and ribbons since department circular 7 of January 20, 1900, was issued prohibiting the use of rubber stamps or the typewriter by United States disbursing officers in filling up checks, said circular is hereby revoked. The use of the rubber stamp and typewriter for said purpose is, therefore, hereby authorized, provided care is taken to insure perfect impressions in filling in the dates, amounts, and names of the payees on checks, and that only permanent ink be used on pads and ribbons."

On account of objections heard from financial institutions, a later circular was issued, providing that the above regulation be "modified so that the amounts of the checks and the names of the payees be filled in either with pen and ink or with the needle-point typewriter, which perforates the paper. The use of the ordinary typewriter for the purpose is hereby prohibited."

There is a suggestion in the *Washington Star* that persons whose signatures to letters are none too legible, might confer a favor upon their correspondents by affixing their names with a small rubber stamp underneath the written signature. An official in one of the government departments at Washington is mentioned as having adopted this method.

BOILING-DOWN POTS FOR RUBBER.—A newspaper of Cleveland, Ohio, in a report of the display made by a local rubber manufacturing company at the Industrial Exhibition in that city during the past month, paid special attention to the specimens of crude rubber as gathered in South America, which were included in the exhibit. The newspaper says: "Hundreds were attracted by the shoes made by the natives from the gum and molded to their feet while still hot from the boiling-down pots."

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED JUNE 1, 1909.

- N**O. 923,205. Wheel for road vehicles. F. Shaw, Bishop Auckland, England.
- 923,224. Vulcanizing apparatus. W. H. Welch, assignor to H. Frost & Co., London, England.
- 923,279. Pneumatic tire. A. Latimer, London, England.
- 923,320. Hose reel. H. W. Blaisdell and G. P. Baldwin, Los Angeles, Cal.
- 923,322. Automobile tire protector. A. B. Boughan, Chicago.
- 923,379. Punching bag. S. H. Selve, Corona, N. Y.
- 923,386. Sap collecting device. F. B. Turner, Ocala, Fla.
- 923,436. Resilient vehicle wheel. H. G. Mackinney, Providence, R. I.
- 923,456. Antislip device. W. M. Stevenson, Indian Orchard, Mass.
- 923,516. Resilient tire. N. H. Hassel, Los Angeles, Cal.
- 923,626. Elastic wire cable. T. W. Collieran, Toronto, Ontario, Canada.
- 923,643. Spring wheel. T. W. Gratz, Jr., Olean, N. Y.
- 923,707. Spring wheel. J. E. Rielly, Newark, N. J.
- 923,733. Puncture proof tire. E. J. C. Timmerman, assignor of one-third to L. C. Crowell, both of Syracuse, N. Y.
- 923,772. Vulcanizing apparatus. A. F. Cogswell, Pretty Prairie, Kans., and J. W. Puckett, Geneva, Neb.

ISSUED JUNE 8, 1909.

- 923,896. Tire plug. R. Sampson, Montreal, Quebec, Canada.
- 924,087. Air brake piston. J. E. Meek, New York city, assignor to H. W. Johns-Manville Co.
- 924,101. Preparation or regeneration of rubber or caoutchouc. [Waste material is dissolved in eucalyptol, a volatile diluent is added, the undissolved matter separated, and the caoutchouc separated from the eucalyptol.] F. W. Passmore, London, England.
- 924,102. Pneumatic tire. F. H. Perry, Beverly, Mass.
- 924,106. Material for waterproof welts. J. R. Reynolds, assignor to the Waterproof Welt and Filler Co., all of Hartford, Conn.
- 924,117. Preparation of caoutchouc. [A process of preparing caoutchouc, comprising extraction of material containing the same with an oxygen derivative of a terpentine, said derivative having a melting point below 150°.] A. Tixier, assignor to Les Produits Chimique de Croissy J. Basler & Co., all of Paris, France.
- 924,139. Vehicle wheel. F. Bradley and F. H. Fairchild, Detroit, Mich., assignor of one-third to C. C. Bradley, Mount Clemens, Mich.
- 924,166. Hose coupling. R. S. MacEwan, Troy, N. Y.
- 924,186. Tire casing. [Involves a strain resisting fabric.] J. F. Palmer, Chicago.
- 924,267. Tire casing. *Same*.
- 924,628. Tire casing. *Same*.
- 924,324. Elastic belt. W. Dalton, Buffalo, N. Y., assignor to C. Dalton, Limerick, Ireland.
- 923,334. Vehicle wheel. J. R. Fouch, assignor to Fouch Disc Wheel Co., all of Minneapolis, Minn.
- 924,385. Knit fabric having elastic selvages. H. C. Shaw, assignor to Bauer & Black, all of Chicago.
- 924,429. Removable tire for vehicles. [Pneumatic.] A. M. Condit, East Orange, N. J.
- 924,545. Elastic cuff and sleeve protector. W. H. Emmert, Sewickley, Pa.
- 924,571. Tire casing. J. F. Palmer, Chicago.
- 924,572. Pneumatic tire. *Same*.
- 924,614. Vehicle wheel. L. A. Hill, Washington, D. C., assignor to American Resilient Wheel Co.

Reissues.

- 12,972. Elastic webbing. S. Kops, assignor to Kops Bros., all of New York city.

Trade Mark.

- 41,663. Hanover Vulcanite Co., New York city. The words *Shamrock-Gloria*. For motor cycle driving belts.

ISSUED JUNE 15, 1909.

- 924,806. Anti-skidding attachment for wheel tires. G. A. Lyon, Philadelphia.
- 924,812. Pneumatic tire. D. McArthur, Jersey City, N. J.
- 924,867. Fire hose nozzle. J. B. Winfield and C. F. Ackerman, Mansfield, Ohio.
- 924,924. Tire armor. W. O'Neil, Milwaukee, Wis.
- 925,005. Spring wheel. W. G. Marr, New Britain, Conn.
- 925,013. Hose clamp. B. L. Morrison, Colorado Springs, Co.
- 925,021. Vehicle wheel. H. O. Peck, assignor to H. O. Peck Automobile Wheel Co., Portland, Ore.
- 925,022. Vehicle wheel. *Same*.
- 925,052. Tire protective rivet. E. B. Stimpson, Brooklyn, N. Y., assignor to Edwin B. Stimpson Co.
- 925,161. Grip tread for elastic tires. T. H. Curtis, Louisville, Ky.
- 925,354. Pneumatic heel for boots and shoes. J. V. Lambert, Chicago.
- 925,368. Packing. N. B. Miller, assignor to Clement Restein Co., all of Philadelphia.

Design Patent.

- 48,065. A. Siverson, College Point, New York. An ornamental design for tiling.

ISSUED JUNE 22, 1909.

- 925,512. Demountable rim. B. R. Tillson, Portland, Me.
- 925,580. Tire. [Comprises a plurality of inner tubes.] C. H. Ketter, Akron.
- 925,713. Hose coupling. H. P. Magone, Race Track, Mont.
- 925,930. Wheel tire. J. D. Marvil, Laurel, Del.
- 925,937. Elastic vehicle tire. C. Motz, Akron.
- 925,959. Hose coupling. E. W. Smith, Horse Shoe, N. C., assignor of one-half to W. C. Jordan, Hendersonville, N. C.
- 925,969. Tire patch. J. A. Wheeler, Onaway, Mich.
- 925,985. Wheel tire. [Pneumatic.] A. Birnbaum, Erie, Pa.
- 926,012. Elastic vehicle tire. C. A. Motz, Akron.

ISSUED JUNE 29, 1909.

- 926,104. Tire protector. F. H. Davis, Chicago.
- 926,197. Water bag syringe. G. E. Kim, Pittsburgh, Pa.
- 926,206. Vehicle wheel rim. E. C. Shaw, assignor to The B. F. Goodrich Co., all of Akron.
- 926,315. Pneumatic device. F. Beck, Dumont, N. J.
- 926,338. Resilient tire. O. L. Leach, Cranston, R. I.
- 926,347. Pneumatic tire. M. Marcille, Paris, France.
- 926,387. Article of vulcanized footwear. M. C. Clark, assignor to Marvel Rubber Co., all of Providence, R. I.
- 926,439. Tire. [Pneumatic.] J. C. Raymond, New York city.
- 926,479. Support for rubber tire vehicles. H. Freye, West Orange, N. J.
- 926,499. Spare tire case. A. H. Kinder, Boston, assignor to C. F. Hopewell and F. B. Hopewell, Cambridge, Mass.
- 926,650. Vehicle wheel [with demountable rim]. G. C. Grable, Berwyn, Ill., assignor to The Perfection Emergency Tire Co., Chicago.
- 926,695. Vulcanizing apparatus for tire tubes or covers. W. R. S. Frost, London, England.

Design Patent.

- 40,107. L. P. Whiteman, New York city. An ornamental design for a hose reel.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of these listed below was in 1908.

*Denotes Patents for American Intentions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 3, 1909.]

- 2,100 (1908). Pneumatic tire cover with leather cheeks. W. H. Bird, Manchester.
- *2,115 (1908). Retaining device for pneumatic tire. E. Hopkinson, New York, and T. Midgley, Hartford, Connecticut.
- 2,176 (1908). Detachable rim flange for tires. C. North, Upper Wortley, Leeds.
- 2,219 (1908). Spring wheel with elastic tire. L. Garnier, Clermont-Ferrand, France.
- 2,291 (1908). Pneumatic tire with stiff ridge of rubber at each side of the tread. J. Jelley, Coventry.
- 2,340 (1908). Vulcanizing plate, the under sides of which are heated by the combined effect of the heat of the gases of combustion and of water vapor. P. Malley, Falkirk.
- *2,380 (1908). Heel protector. A. J. Boulton, London. (United Shoe Machinery Co., Boston, Massachusetts.)
- 2,381 (1908). Electric vulcanizer for tires. W. Frost and H. Frost & Co., London.
- 2,471 (1908). Tire rim with removable side flange. G. D. Harrison, Dublin.
- 2,474 (1908). Tire rim with detachable flange. W. S. Boulton, London.
- *2,485 (1908). Detachable heel pad. P. R. J. Willis, Kingston. (J. L. Giovana, New York city.)
- 2,507 (1908). Rim for pneumatic tires. B. T. Hamilton, London.
- 2,583 (1908). Rim for pneumatic tires. M. Cosset, Paris, France.
- 2,601 (1908). Pneumatic tire. C. A. Bradshaw, Manchester, and three others.
- 2,663 (1908). Rim for pneumatic tires. E. B. Killen, London.
- 2,687 (1908). Puncture proof tire band. C. Revillard, Paris, France.
- 2,736 (1908). Pneumatic tire. J. C. Barker, Leeds.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 9, 1909.]

- 2,780 (1908). Tire, not pneumatic, but rendered more resilient by means of air spaces. E. B. Killen, London.
- 2,787 (1908). Process and apparatus for treating rubber latex—with or without formaldehyde or other preservatives—so as to convert it into sheet form suitable for transport. L. Norzagaray, London.
- 2,796 (1908). Elastic filling for tires, cushions, and the like, made from an aerated mixture of gelatine, glycerine, and a coagulating agent. B. E. Foster, Westminster.
- 2,829 (1908). Cricket ball with wooden core wrapped with rubbered thread or cloth strips, and the whole covered with rubber. J. P. Higgins and G. A. Marsh, Birmingham.

- *2,871 (1908). Apparatus for desk telephones to prevent the overhearing of conversations. E. H. Hutton, New York city.
- 2,873 (1908). Locking ring for tire rims. W. Clark, London. (H. Adlerwerke, vorm. Kleyer, A.-G., Frankfurt-a/M., Germany.)
- 2,911 (1908). Pneumatic tire. H. Kuhnlen, Kyffhauser, Germany.
- 2,956 (1908). Solid rubber tire held in place by transverse bolts. Soc. Industrielle des Telephones (Construction Electriques Caoutchouc Cables), Paris, France.
- 3,005 (1908). Pneumatic tire cover with fabric, the warp of which is composed of China camel or other like hair. C. L. Marshall, London.
- 3,042 (1908). Pneumatic tire having twin treads in the concavity the metal chain or rope is laid. F. Reddaway, Pendleton, Manchester.
- 3,075 (1908). Pneumatic tire with metallic protective sheath. H. de Bernales and I. de Bernales, Paris, France.
- 3,112 (1908). India-rubber sheets manufactured from, or fabrics coated with waste or vulcanized rubber, in the form of powder or paste, which is spread on a traveling band or between bands passing over two drums, one adapted to be heated in order to vulcanize the sheet. T. Gare, New Brighton, Cheshire.
- 3,116 (1908). Tire of rubber blocks. W. G. Titherington, Liverpool.
- 3,187 (1908). Spring cored golf ball with rubber wrapping and gutta-percha cover. A. S. Oswald, Belfast.
- 3,250 (1908). Electrically heated vulcanizer for tires. W. H. Welch and H. Frost & Co., London.
- 3,358 (1908). Tire inflating pump to be held in the hand and operated by friction from suitable part of a motor car. L. Levent and F. Lhoste, Paris, France.
- 3,366 (1908). Vulcanizing apparatus comprising removable hollow heating tables fitting into pipes which communicate with the source of heat. G. de La Neziere, St. Quen (Seine), France.
- 3,370 (1908). Lever for pneumatic tires. H. J. Phillips, London.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 16, 1909.]
- 3,439 (1908). Pneumatic tire covers and hose fabrics of special construction. I. S. McGiehan, London.
- 3,548 (1908). Spring wheel with elastic tire. J. Horton and W. Horton, Halifax.
- 3,561 (1908). Pneumatic tire tread of leather links. H. V. McKay, Melbourne, Australia.
- 3,572 (1908). Product obtained by heating siccative vegetable oil with resin oil obtained from *Xanthorrhoea*, which may be used alone or mixed with india-rubber. R. W. Wallach and G. Reynaud, London.
- 3,578 (1908). Tire rim, perforated to prevent overheating of a pneumatic tire or preventing bursting of the air tube. W. C. Taylor, Paris, France.
- 3,659 (1908). Process for mixing waste rubber in crumb form with a volatile oil which, during subsequent heating expels air from the interstices; the mixture is then molded while still under heat. O. C. Immisch, London.
- 3,669 (1908). Tire rim of the divisible type. E. Comminge, Paris, France.
- 3,717 (1908). Tire with a small air tube protected by an elastic filling. I. Frankenburg, Salford, Manchester.
- 3,757 (1908). Twin solid tire engaged to the rim by eye bolts. J. W. Cann, Folkestone.
- 3,769 (1908). Tire composed of alternate layers of rubber and leather. H. L. Peters, London.
- 3,816 (1908). Tire filling composition having rubber as a base. R. A. Morris, Rossendale.
- 3,825 (1908). Device for assisting in the attachment of a Stepney spare wheel. W. R. Hughes, Cheltenham.
- *3,867 (1908). Detachable tire carrying rim. W. E. Burroughs, New York city.
- *3,876 (1908). Solid tire. B. C. Swinehart, Akron, Ohio.
- 3,877 (1908). Rim for solid tire. *Same*.
- 3,878 (1908). Elastic tire. L. Garnier, Clermont-Ferrand, France.
- 3,962 (1908). Pneumatic tire with protective strip at the edge of the tread. E. Kempshall, London.
- 4,049 (1908). Vulcanizing apparatus; relates to the invention under patent 3,366 (1908). L. de La Neziere, St. Quen (Seine), France.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 23, 1909.]
- 4,140 (1908). Insoles of boots. A. Besser, Nowawes, Germany.
- 4,147 (1908). India-rubber substitute obtained by heating the glycerines with a dibasic or polybasic acid. L. Grognot, Paris, France.
- *4,169 (1908). Detachable tire carrying rim. J. C. Cole, Chicopee Falls, Massachusetts.
- 4,202 (1908). Substitute for leather composed of layers of vegetable felt united by rubber solution. A. Nodon, Bordeaux, France.
- 4,298 (1908). Rim for pneumatic tires. F. W. Constantine, Bolton.
- 4,328 (1908). Sphygmomanometer in which the gage is connected by a rubber tube to a rubber bag. [A sphygmomanometer was described in THE INDIA RUBBER WORLD, October 1, 1908 page 31.] L. E. Hill, Loughton, and J. J. Hicks, London.
- 4,353 (1908). Self-sealing preparation for tire tubes. W. J. Thorolf, London.
- 4,405 (1908). Protector for heels of over shoes. T. Rankine, Edinburgh.
- 4,440 (1908). Tire cover strengthened by spiked eyelets. W. Eatwell, Chester.
- 4,554 (1908). Rim for pneumatic tires. T. Duysens, Maastricht, Holland, and two others.
- 4,561 (1908). Solid rubber tire supported by flexible side members. W. B. Hartridge, Seaford.
- 4,567 (1908). Tire pump adapted to be driven from a shaft of a motor car. M. Bohne, Berlin, Germany.
- 4,618 (1908). Tooth brush of rubber sponge. E. F. Lofgren, Elfsbyn, Sweden.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 30, 1909.]
- 4,649 (1908). Spare rim for a supplementary tire. J. E. Hopkinson, West Drayton, and J. C. Akerman, London.

- 4,714 (1908). Regeneration of waste rubber by heating it with an ether of the aliphatic or cyclic series the mass is diluted and filtered and the caoutchouc separated. Basler Chemische Fabrik, Basle, Switzerland.
- 4,972 (1908). Tire rim designed to be tightened in the case of a tire being used which consists of a flexible cover filled with an elastic material. R. H. Koppel, Stinvalpar-Trooz, Belgium.
- 4,981 (1908). Rim for pneumatic tires. J. S. Foley, West Bromwich, and F. W. Baker, Stourbridge.
- 5,117 (1908). Carrying rim for pneumatic tire. J. C. Dennis, Guildford, Surrey.

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

- 398,230 (Dec. 31). R. Rondeau. Method of attaching pneumatic tires.
- 398,022 (Dec. 30). C. W. Greenwood. The manufacture of the gum tragacanth.
- 398,336 (Jan. 7, 1909). N. J. C. André. Leather cover for tires.
- 398,380 (Jan. 9). Boucas and Caron. Pneumatic tire.
- 398,402 (Jan. 9). P. Wienskowitz. Elastic tire.
- 398,470 (Jan. 13). S. A. Schewezik. Elastic tire.
- 390,490 (Jan. 14). Laurent Levingelstine Sons Co. Pressure rollers and pneumatic fittings for leather and other material working machines.
- 398,277 (Mar. 19, 1908). Francois A. Grelon & Co. Removable tire rim.
- 398,596 (Jan. 18, 1909). E. B. Killen. Wheel tire and device for fastening the same.
- 398,636 (Jan. 19). W. J. Teufel. Elastic tire of soft rubber.
- 398,740 (Jan. 23). Langbrook. Elastic tire.
- 398,583 (Dec. 15, 1908). G. Capelle. Process of regenerating vulcanized rubber.
- 398,678 (Jan. 21, 1909). W. Leyenthal. Device for gathering rubber which has coagulated on the trunk of the rubber trees.
- 398,705 (March 30, 1908). Société de Caoutchouc par le Latex. Products obtained by mixing rubber latex with gelatine, glue of various kinds, starch, casein, gums and other plastic and viscous substances, "viscose" and other cellulose solutions and all alkalized solutions.
- 398,565 (Jan. 16, 1909). J. Shoemaker. Rubber heels and soles for boots.
- 398,804 (Jan. 23). A. Genthe. Process for manufacturing linoleum and similar products, used more especially in the manufacture of linoleum.
- 398,815 (April 2, 1908). L. Baraduc-Muller. System of using very hard agglomerate for anti-skidding devices for pneumatic and other tires.
- 398,821 (Jan. 26, 1909). H. Talasso. Pneumatic tire cover.
- 398,962 (Jan. 30). W. Frost and Harvey Frost & Co., Ltd. Vulcanizing apparatus for tires and tubes.
- 398,912 (Jan. 28). J. P. Vivier. Pneumatic horse collar.
- 398,755 (Jan. 25). A. P. Uptegraff. Hoof pads.
- 398,811 (Jan. 26). E. Mongeal. Toy balloon.
- 398,979 (April 7, 1908). D. Lance. Elastic tire.
- 398,982 (April 7). C. de Rossette. Pneumatic tire.
- 399,003 (Jan. 16, 1909). R. Peretti. Segmental pneumatic tires.
- 399,009 (Jan. 21) Suriance and Leblanc. Three air chambers in one tire cover.
- 399,070 (Feb. 2). Mlle. T. B. Kempshall. Protective tread for tires.
- 399,079 (Feb. 2). H. G. Hugon. Tire tread composed of blocks of rubber and metal.
- 399,084 (Feb. 3). M. A. Kennedy. Tire cover.
- 399,096 (Feb. 3). Dheyne and Bory. Elastic tire.
- 399,133 (Feb. 4). L. L. B. Denis. Tire with raised ridges on the surface, crossing each other and reinforced.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Robert, Ingenieur-Conseil, 16 avenue de Villier, Paris, at 50 cents each, postpaid.]

NOTWITHSTANDING the pneumatic tires and the very best of laminated springs, the automobile, the same as the horse-drawn carriage, has a disagreeable, trembling motion. To obviate this somewhat, india-rubber is placed between the body and chassis for the purpose of isolating the body as much as possible from the road shocks. This is a practice which will become more general in the future [says *The Carriage Monthly*]. Rubber blocks between springs and axles to diminish the road shocks have been in use for a long time, and better riding qualities were the results when fitted with rubber blocks. This much assured, it will be certainly a good improvement to place rubber between the body and chassis, improving its riding qualities and eliminate most of the trembling motion.

THE Imperial Ethiopian Rubber Co., Limited, registered in London January 9, 1907, to work a rubber concession from the Emperor Menelik, of Abyssinia [see THE INDIA RUBBER WORLD, June 1, 1907—page 274] report a loss on the first year's trading, although they collected 241,672 pounds of rubber, in addition to some coffee and beeswax.



MEMBERS OF THE RUBBER CLUB AT RIVERSIDE RECREATION GROUNDS

The Rubber Club of America.

(Successor to the New England Rubber Club.)

NEARLY two hundred jolly rubber men, on the afternoon of July 13, gathered at the Riverside Recreation Grounds, in Weston, on the Charles river, and in spite of the sultry weather had the time of their lives.

One of the first things done after the crowd had exchanged greetings and looked the grounds over was the holding of the business meeting. It was very fully attended, the chairman being the president of the Club, with Secretary George H. Mayo as recorder of business. The first item was an amendment to the constitution by which a nominating committee, to be appointed by the executive committee, was created to prepare a list of candidates for office, to be voted upon at annual elections.

It was then voted that the name of the association be changed from New England Rubber Club to The Rubber Club of America. It was also voted to incorporate the club under Massachusetts laws. The following committee was appointed to act as incorporators: Hon. L. DeWart Apsley (chairman), Augustus O. Bourn, George H. Hood, Henry C. Morse, John H. Flint, Alexander M. Paul and Arthur W. Stedman.

It was also voted to change the constitution so that the dinners and entertainments be held at the discretion of the executive committee, instead of at fixed dates.

In the meantime the Lynn Cadet Band was discoursing sweet music in the broad covered pavilion that fronts the swimming pool. Soon most of the club was gathered there also, watching with interest and enthusiasm the diving and swimming of such of their youthful members as cared to don bathing suits. E. D. Hewins and J. Frank Dunbar did particularly well in this natorial exhibition. Following this was a burlesque exhibition of watermanship, which in turn was followed by expert diving, swimming, and so on, by members of the Brookline Swimming Club. Professor Al. McCormic, a well-known swimming instructor in Brookline, brought a class of his boys from that town and for nearly two hours the youngsters held the crowd spellbound. They indulged in swimming races, tub races, fancy diving, life saving, padded lance fights from canoes, log rolling

and other specialties in which they were marvelously proficient. So interested were the on-lookers that when the last number was called they could hardly drag themselves away to the ball field. Once there, however, they found themselves again interested and enthusiastic.

The vice president of the club, Mr. F. C. Hood, an all-around athlete and lover of outdoor sports, had at very brief notice rounded up a nine which he claimed could defeat any other nine the Club could produce. Captain Will Pitcher, with the aid of R. L. Chipman, had formed another nine of which he was not quite so sure. He therefore exchanged some of his players for some of Captain Hood's, the result being the four innings that followed were unusually hot ones and 'twas really the best ball playing the Club had ever had. The most spectacular hit was a long clean drive out of the field over the knoll and into the river by Webster, which brought three men home. It is said to be one of the greatest hits on those grounds.

The nine of which the vice president of the Club was captain was made up as follows: Page, 1. f.; Hood, 2 b.; Webster, c.;

MENU.

	Feed Olives and Radishes	
SAUTERNE	Little Neck Clams	
Consomme Royale	Bread Sticks	Green Turtle Soup
Sliced Tomatoes	Baked Lobster a la Thermidor	French Dressing
	Noisettes of Spring Lamb	
Potatoes O'Brien	Sorbet Maraschino	Fresh Green Peas
CHAMPAGNE	Roast Native Squab	
	Currant Jelly	
	Romaine and Tomato Salad	Roquefort Cheese
Toasted Crackers	Assorted Cakes	
	Ice Cream	
Pudding a la Diplome	Chilled Cantaloupe	Bombe Nougat
	Coffee	



SWIMMING POOL AT THE RECREATION GROUNDS.

Muir, 1 b.; Rudstrom, p.; Duncan, 3 b.; Dane, s. s.; Glidden, c. f.; Roper, r. f.

Captain Pitcher's nine was disposed thus: Phipps, s. s.; Riddick, 2 b.; Palmer, r. f.; Daly, 3 b.; Pitcher, 1 b.; Abbott, c. f.; Kimball, l. f.; Hopkins, c.; Hallahan, p.

The umpires were Johnson and Barker; the scorer, Chipman.

At 7 o'clock the large balcony dining room was filled to overflowing and a very excellent dinner provided. The band, which seems to understand the musical proclivities of the rubber men, played popular airs, and the whole crowd sang with much gusto. There was a lot of noise and considerable music, and all enjoyed it. When coffee and cigars arrived, the president of the Club arose and proposed a rising toast to the President of the United States, which was enthusiastically responded to. Then, as is the Club's custom, a silent toast was proposed as a tribute to the three members who had died during the year, the Club's director, James Bennett Forsyth, and the honorary vice president, Robert D. Evans, and Joseph Davol.

Then followed the presentation of golf prizes for those who had played and won that forenoon at the Woodland Golf Club. The winners of the prizes were: First prize, F. C. Hood for the best gross, his score being 82 for 18 holes. E. H. Clapp and W. E. Barker tied about a net score of 76. The visitors' cup went to F. C. Blanchard, whose net score was 76.

The details of the outing and dinner were arranged and worked out by Secretary George H. Mayo; the sports committee, F. D. Balderston, chairman; and the dinner committee, F. H. Appleton, chairman, to whom the credit for a most enjoyable function is due.

A RETROSPECT.

THE fact that the New England Rubber Club has concluded ten years of existence and it has been so successful from the beginning seems to call for a brief review of its history, particularly since the club is now taking on a new name and a broader scope. The original announcement to the trade of the plans and pur-

poses of this association mentioned it as being the outgrowth of the occasional gathering of some score of men belonging to the rubber trade of Boston, who had been called together from time to time usually to take action on the death of a notable rubber manufacturer.

In January, 1900, after such a meeting, it was decided to form a permanent organization to embrace the rubber manufacturers in New England, and also that jobbers and retailers of rubber goods and importers of crude rubber should be eligible for membership. There being in the New England states about 250 members of the trade who would come within the scope of the proposed plan, it was felt that abundant material existed from which to form an excellent organization. The purpose of the club was purely one of social intercourse among gentlemen connected with the New England rubber trade. It was planned, however, to have an honorary membership to consist of rubber manufacturers in other parts of the world.

Leading members of the New England rubber trade took an interest in the movement from the start, and a temporary organization was effected and officers chosen who were formally elected at the first annual meeting, held at the Trade Club in Boston on April 16. Annual meetings have been held regularly in April up to this time, together with at least two other general meetings of the character proposed in the first general announcement:

"The present plan is to have two general meetings and dinners a year, and to have entertainment in the way of speeches and features of special interest that shall make each occasion one that will long be remembered by all who are in attendance."

The club has a formal constitution and by-laws, and is about to acquire a more formal charter, but the one sentence quoted here has served as the actual organic law of the association from the start, and is likely long to continue as the bond which holds the members together. Probably in the history of no other trade have there been so many gatherings of representative members



TENNIS COURTS AT THE RECREATION GROUNDS.

and certainly not under such agreeable circumstances. It must be considered that these informal gatherings have no business side; they have not been in fulfilment or any regulation or condition of membership; they have not occurred at fixed dates or places. Whenever the entertainment committee has announced plans for a meeting the members have simply flocked together, and from the continuance of the custom it may be inferred that after each dinner or outing they have felt that it was good to have been there.

In addition to the annual meeting in each year there has been usually a "midsummer dinner" and a "midsummer outing," the total attendance at which has been very large, considering the limited membership of the club. There have been present as guests, first and last, very many members of the trade from outside New England, and persons, including many notables, not connected with the trade. It has been the rule to arrange a programme which should give a distinctive character to each dinner—as when the "Goodyear Dinner" commemorated the birthday of Charles Goodyear, or when the "Naval Night" celebrated the recent round-the-world cruise of the United States navy. On the former occasion there was an exhibition of Goodyear relics and letters in honor of the inventor from all over the world; on the latter, half a dozen officers who had been with the fleet were the after-dinner speakers. The summer events have been devoted to outdoor sports, in which many of the rubber men are expert. The various entertainments are worth making a list of, particularly as it has not been done before:

1900.

April 16.—First annual dinner. Trade Club, Boston.
August 21.—Midsummer Impromptu. Point Shirley Club, Winthrop.
November 19.—Goodyear Dinner. Hotel Essex, Boston.

1901.

May 3.—Twentieth Century Dinner. Exchange Club, Boston.
August 20.—Midsummer Outing. Nursery Island Club.
November 21.—Tropical Symposium. Exchange Club.

1902.

May 13.—Annual Dinner. Exchange Club.
July 22.—Midsummer Outing. Country Club, Brookline.
November 20.—Thanksgiving Dinner. Exchange Club.

1903.

May 13.—Annual Dinner "Mexican-American Fiesta." Exchange Club.
July 14.—Midsummer Outing. Country Club.

1904.

February 17.—Midwinter Dinner (170 present). Hotel Somerset, Boston.
April 18.—Annual Meeting; "Smoke Talk." Massachusetts Automobile Club.
July 26.—Midsummer Outing. Country Club.
November 21.—Smoke Talk. American House, Boston.

1905.

February 24.—Midwinter Dinner. Exchange Club.
April 25.—Annual Meeting. American House.
July 19.—Midsummer Outing. Country Club.

1906.

February 19.—Midwinter Dinner. Exchange Club.
April 16.—Annual Meeting. American House.
July 18.—Midsummer Outing. Point Shirley Club (including a visit to Peddock's Island as guests of the United States army).

1907.

February 13.—Transportation Dinner. Hotel Brunswick, Boston.
April 15.—Annual Meeting. American House.
July 17.—Midsummer Outing. Country Club.

1908.

March 17.—Midwinter Dinner. Algonquin Club.
April 27.—Annual Meeting. American House.
July 15.—Midsummer Outing. Point Shirley Club.

1909.

March 22.—Naval Night. Algonquin Club.
April 19.—Annual Meeting. American House.
July 13.—Midsummer Outing. Riverside Recreation Grounds, Weston.

Much good after-dinner oratory has been heard upon these occasions. The names of all the speakers of note would make a long list, but it must suffice here to say that they have included governors and other state officers of Massachusetts, mayors of Boston, Senators and members of Congress, cabinet members,

and army and navy officers. Many of the addresses here have been of such importance as to lead to their publication at length in the newspapers. The topics have been such as appeal to business men—as when a Transportation Dinner was held—or else to patriotic and public spirited citizens generally. Topics of special interest to rubber men have likewise been discussed, and twice the secretary of the club was invited to give illustrated talks on rubber producing countries visited by him.

The first president of the club was Henry C. Morse, treasurer of the Revere Rubber Co. He was followed for two terms each by ex-Governor Augustus O. Bourn, of the Bourn Rubber Co.; two terms each by ex-Congressman L. D. Apsley, president of the Apsley Rubber Co.; John H. Flint, treasurer of the Tyer Rubber Co.; and Arthur W. Stedman, of George A. Alden & Co. At the last annual meeting the office was filled by the election of the Editor of THE INDIA RUBBER WORLD, who has served seven years as secretary and afterward as vice-president.

A SHOE AND LEATHER FAIR.

THE First World's Shoe and Leather Fair, at Boston, July 1-31, was held in an extensive new building, erected especially for the purpose, on the Charles river road. There was a great variety of exhibits, illustrative of all branches of the industries suggested by the name of the fair, domestic and foreign, ancient and modern.

The rubber footwear industry was represented by exhibits made by the United States Rubber Co., the Hood Rubber Co., the Apsley Rubber Co., and the Converse Rubber Shoe Co., showing in detail the lines of rubber boots and shoes made by them.

Exhibits of specialties related to the trade were made by other manufacturers: John H. Parker Co., leather soled rubber boots; Foster Rubber Co., "friction plug" specialties, heel cushions, and a patented dryer for drying out leather boots; Peters Manufacturing Co., Priestly's cravenetted cloth for shoe tops; Essex Rubber Co., shoe trade specialties; and North American Chemical Co., "Besto" waterproof bottom filler for shoes.

The Fair was planned by Mr. Oran McCormick, proprietor of the Boston journal, *Footwear Fashion*, and the attractive and extensive scale on which it was planned was due to his energy. The whole was highly praised by those who visited the building, but the attendance was far from encouraging, and on July 26 the Fair was placed in the hands of receivers, with authority to keep it open until the end of the month—the date originally fixed for closing it. George R. Nutter and Franklin T. Hammond were the receivers appointed, on allegations filed in court that the indebtedness was between \$140,000 and \$150,000.

THE MEXICAN RUBBER FIRES.

THE Tehuantepec Rubber Culture Co. (New York), in connection with the yearly financial statement, sent out to their subscribers under date of July 13, referred at length to the forest fires in the neighborhood of their "Rubio" plantation during May and June. In the last INDIA RUBBER WORLD (page 370) mention was made of reports of great damage from forest fires in Mexico. It appears that a drought had prevailed since February to a degree scarcely heard of in Mexico in the past, one result that fires were very prevalent and disastrous. The Tehuantepec company report, however, that not more than 20 acres of their rubber was destroyed, but the remainder of their plantation was saved only by the exertion of their working force almost constantly for weeks. Some other plantations were less fortunate, according to this report, but no names are mentioned. We quote: "Over near Acayucam, Saula was half burnt up, and up around Tuxtepec the papers say 40 square leagues of fine forests, engulfing many fine fincas and plantations. Amongst these was one American rubber place whose loss is said to have been \$1,000,000."

The Rubber of South America.

UNSMOKED AMAZON "PARÁ" RUBBER.

THE appearance in the market of the rubber of the same character as "Pará," as the result of the work of planters in British Asia, and selling at a higher price than any rubber from the Amazon regions—the home of rubber of this character—has lent a great stimulus to the serious efforts which have been made in Brazil for years past to improve the quality of the rubber produced there.

While local scientific men have labored to impress upon the Brazilian trade the desirability of improvements, the rubber producers themselves, so long as they held in their hand a monopoly of the production of "Pará" rubber, naturally were not concerned about improving conditions. They were not concerned when so important a rubber manufacturer as the late Joseph Banigan, of the United States, asserted in a public address that the manufacturers of this country annually paid \$5,000,000 for "dirt and water" in buying the rubber needed for their business. There was no way in which they could do better, and so long as they were obliged to buy from Pará the producers of rubber back of that port did not need to trouble themselves about removing the cause of complaint of Mr. Banigan and his fellow buyers.

The appearance in the market, however, of a new grade of Pará rubber, produced on the other hemisphere, and preferred by many manufacturers to the original Pará grades at a higher price, made a profound impression in the Amazon regions, particularly when it was attended by a rate of profit which had never been dreamed of in Brazil. The latest result of the experiments which have been made by scientific men in Brazil exist in the shape of specimens of rubber as clean, and showing as small a degree of shrinkage, as the best products of plantations in Ceylon and the Malay states.

It is not reasonable to assume that better rubber can be made in Asia than in South America, having the latex of the same species as the basis, and it was only necessary to have the attention of *seringueiros* in the latter country to appreciate the preference given by consumers to clean rubber to stimulate an interest there in the production of rubber of this kind. Furthermore, from the earliest times smoking the latex of *Hevea* has been regarded in Brazil as essential, but the success attained by the Eastern planters in producing rubber without the agency of smoke has encouraged the thought on the Amazon that smoking may not after all be a requisite.

Specimens of rubber which have reached the United States recently, prepared from the latex of *Hevea* without smoking, have all of the desirable qualities of the best plantation Pará produced in the Far East, together with the "nerve" which is admittedly lacking in the best plantation sorts. Dr. Carlos de Cerqueira Pinto, a physician and chemist of Pará, Brazil, who has been a recent visitor to the United States, for many years has been among those who studied and worked to learn if it were not possible to coagulate the latex of both *Hevea* and "caucho" (*Castilloa*) in a better and more cleanly manner. He has not by any means confined his researches to the laboratory. For six years he traveled up the various rivers that are affluents of the Amazon and rubber gathering as few men have done.

The first result of Dr. Pinto's research was the production of a cheap and simple preservative compound to be added to the latex immediately after collection, to prevent coagulation in transit to the smoking camp, and also to prevent fermentation in case it should be desirable to hold the latex for any length of time before smoking. Later he produced coagulating compounds, the addition of which to latex facilitates its conversion into rubber without the necessity of smoking. Dr. Pinto is of the

opinion that a certain degree of excellence of Pará rubber prepared by the native method is due to the property derived from the smoke. In the preparation of his coagulant, therefore, he has sought materials which will give the same properties to the rubber without giving certain other less desirable properties.

Taking his system as a whole, the addition of the preservative to the latex retards coagulation until such time as the latex is to be formed into rubber, and by preventing fermentation of the material keeps it in a condition which permits of its being strained—a process, by the way, not usual among Brazilian *seringueiros* to-day. When the time arrives for coagulation, the strained latex being placed in shallow tins and a small amount of the coagulant added, the rubber speedily solidifies to a degree that renders it susceptible to mechanical pressure to remove the moisture.

The samples of *Hevea* rubber brought to the United States by Dr. Pinto as the result of his process are very fine. The rubber is tough, it has the characteristic mahogany tint usual in fine Pará, but it is free from the familiar smell that characterizes the smoked product. If both the preservative and the coagulant could be generally adopted it would result in cleaner rubber and in a greater proportion of "fine," as "medium" would not be made, and a small proportion of "coarse." The importance of this fact alone is indicated by the fact that the proportions of these grades exported through Pará of late has been about 61 per cent. of fine, 11 per cent. of medium and 28 per cent. of coarse. Dr. Pinto has experimented not only with Pará rubber, but with caucho and mangabeira, the quality of which as produced by him is vastly superior to the normal qualities of these grades.

The Brazilian government has granted to Dr. Pinto five patents. The letters patent themselves do not reveal the nature of the compounds to which they relate. It can only be stated here that the patents cover the following inventions:

No. 4,227. "Seringuina," for retarding fermentation for short period. (This was first referred to in THE INDIA RUBBER WORLD, in its issue of March 1, 1905, page 183. At that time the question of preparing rubber without smoking had not been taken up.)

No. 4,751. "Seringuina liquida," for retarding fermentation indefinitely; this has been done for three years or more.

No. 4,750. "Mangabina," a coagulant for mangabeira rubber.

No. 5,191. "Lactina," a coagulant for fine Pará rubber.

No. 5,192. "Cauchina," a coagulant for caucho.

While these letter patents do not embrace specifications, THE INDIA RUBBER WORLD has in hand a copy of a Mexican patent granted to Dr. Pinto (No. 8,413—October 6, 1908) covering his coagulant "Cauchina," designed for use in connection with the latex of the *Castilloa elastica*. The patent claim is for—

A chemical compound jalap, prepared in any form, and creosote in all its forms, regardless of whether these substances are used separately or together in their natural state, or dissolved in alcohol or any other solvent, or whether they are present in liquid or pastry form or in the form of a paste, or in a compressed state, mixed with pulverizing substance or substances in a state of emulsion, for the purpose of using the same for the coagulation of the sap of the rubber plant and other plant saps.

Alcohol is well known to be a good coagulant of rubber. Jalap is derived from the roots of the *Convulvaceæ*, that of one of the *Ipomeas* being the most important and a relative of the "amole" vine used throughout Central America in the coagulation of rubber by the natives. Creosote acts probably as a preservative. The compound seems a good one and should do the work.

Dr. Pinto at Rio received a letter from the Continental Coautchouc- und Guttapercha Compagnie, of Hanover, saying:

"We received your sample of latex, as well as the corresponding coagulating agent, which we delivered to our laboratory for examination. It is really interesting that this latex, although

nearly a year old, still remains perfectly liquid. Friends in Amazonas, Africa, and other tropical countries have been constantly sending us samples of latex which usually arrived in a state of fermentation, with the exception of such as had been saturated with ammonia. This most important feature of the latex you sent us is that it contains no ammonia and reacts slightly acid."

A RUBBER CONGRESS IN THE ACRE.

APROPOS of an article on "The Rubber System of the Amazon," in the last issue of this paper, which was districts as remote as parts of the new Federal territory of the Acre, it is interesting to note that a rubber congress, based upon official initiative, is to be held this month in that territory. There follows a translation of an announcement of this "Congresso Industrial Seringueiro," which appears in the *Revista* of the Amazonas Commercial Association, at Manáos, in the form of a circular letter addressed by the prefect *pro tem.* of one of the districts of the Acre territory to the president of the association named:

SENNA MADUREIRA,

Department of Alto Purús, May 5, 1909.

Senhor WALTER MAX SCHOLZ, President of the Commercial Association of Amazonas:

SIR: Whereas the essential interests of the Acre regions require that prompt measures be taken for protecting, safeguarding and developing their greatest source of wealth, Rubber, as well as in regard to other matters of great importance, all of which are in every respect foreign to the field of politics, and whereas it is a fact that these matters can only be practically and efficiently discussed by direct exchange of opinions between the owners of rubber producing lands and the manufacturers interested in their product, it has been decided to hold in this city a great Congresso Industrial Seringueiro (industrial convention of rubber producers).

I therefore beg to invite you to have your association represented in the proceedings of the said convention, which will hold its initial session on the 8th day of August next, at 1 P. M., and its final session on the 22nd of the said month.

Thanking you in advance and assuring you of my high esteem and appreciation, I am

Respectfully yours,

SAMUEL BARREIRA.

The following comments on the same, from the *Revista*, may be regarded as an official expression from President Scholz:

"Our satisfaction at receiving the above circular can readily be conceived. Ever since last year we have been continuously and most earnestly preaching, both by example and exhortation, and finally through the columns of this publication, the necessity of our reawakening in order to guide our extractive industry into new channels.

"With this end in view, we have been unsparing in our efforts in every direction. The new by-laws of our Commercial Association even now contain two provisions, under one of which our delegates in the interior of the state and in the Acre territory have been appointed, while the other provides for a convention of the representatives of agricultural, manufacturing and commercial interests, which is to meet every second year in this city [Manáos]. In accordance with the decisions of the said states, we have already commenced to make the necessary preparations for the said convention.

"While expressing our satisfaction at the initiative taken by the organizers of the industrial convention of rubber producers, we desire and herewith advise that other localities take the same initiative, in order that at the time of the meeting of the general convention which will be held in due time in this capital [Manáos], we may already have at our disposal certain valuable data which may serve as a partial foundation on which to base

the radical and final solution of the great industrial and agricultural problem of Amazonas.

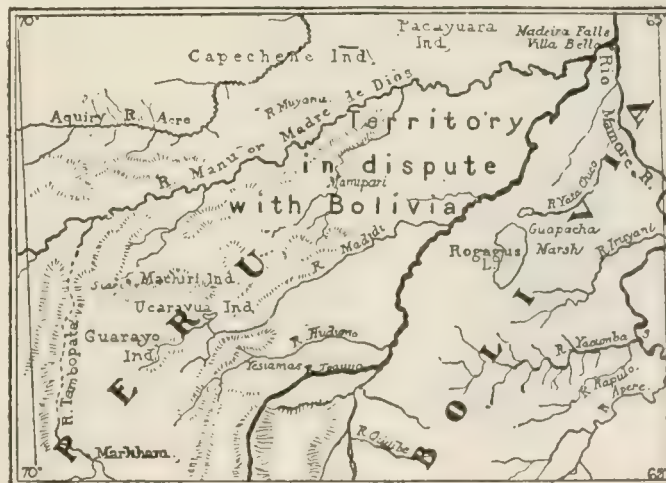
"Accepting the invitation extended to us by the estimable prefect *pro tem.* of the department of Alto Purús, we shall entrust our delegate in Senna Madureira, Dr. Geraldo Barbosa Lima, with the task of representing us at the industrial convention of rubber producers, with the assurance that the same will splendidly fulfil his duty."

The executive head of the Associação Commercial do Amazonas, Mr. Scholz, is also the head of the rubber commission firm of Scholz & Co., who have long been the largest exporters of rubber from Manáos and who rank third among exporters from all the Amazon ports combined. This firm, before July 1, 1905, was styled Witt & Co. The former head of the firm—and still a partner in it—Mr. Nicholas Henrique Witt, took an active part in the International Rubber Congress in London last year, and his paper entitled "Notes on the Growth and Production of Pará Rubber in Brazil" formed an interesting contribution to the official report of the meeting. The fact that these gentlemen are to be identified with the coming congress at Senna Madureira is alone a guarantee that its proceedings will be of interest and importance.

It is timely to recall that Mr. Scholz was the Amazon merchant interviewed in THE INDIA RUBBER WORLD June 1, 1904 (page 298), on the question "When there is a heavy advance in crude rubber prices who pockets the additional cost?" Prices, by the way, were then exceptionally high. Mr. Scholz said that the money went to the *seringaes*, and he added: "Our houses are very large buyers of rubber, but only on a commission basis. We never engage in any speculation, and the price of rubber is not a matter of concern to us. The rate of commission is the same, whether the market is high or low, though, of course, the higher the market the larger the volume of commissions on a given transaction. Prices are made by supply and demand; if manufacturers are eager for rubber, when stocks are small, prices go up, just as they go down when the conditions are reversed. But when prices do go up, it means more money for the man in charge of gathering rubber and shipping it to the prime markets, as Manáos and Pará."

ALMOST A WAR OVER RUBBER.

THE diplomatic imbroglio involving Peru and Bolivia about which the newspapers have had so much to say during the month grows out of a boundary dispute between those republics. This is a dispute of long standing, which was referred for arbitration to the president of Argentina. When his award was made public in Bolivia the public dissatisfaction was expressed in a manner offensive to the authorities of Argentina, which republic at once broke off diplomatic relations with Bolivia, and a grave crisis,



RUBBER TERRITORY IN DISPUTE
[From the New York Times]

as the diplomats say, resulted. The territory in dispute is in the heart of a rich rubber district in the regions of the Madre de Dios, Orton and Heath rivers, to the west of Rio Beni, and south of the Acre. The excitement in Bolivia seems to have been due to uncertainty as to whether the limit of longitude fixed by the arbitration of Argentina was calculated from the meridian of Paris or that of Greenwich. If the former, Bolivia would lose an important amount of territory rich in rubber; if the latter, Peru would be the loser. Incidentally Brazil is interested, since the agreement between Brazil and Bolivia of November 17, 1903, under which the Acre district was conveyed to the former by the latter country, reference was had to the then understood boundary between Bolivia and Peru, by virtue of which the country recently in dispute was regarded as Bolivia.

In case the effect of the Argentinian arbitration should prove averse to Bolivia, Peru would be entitled to claim from Brazil a share of the Acre district ceded to her in 1903 by Bolivia. It does not appear, however, that war is now imminent, and the latest report at this writing is that the governments of Bolivia and Peru, the latter the apparent beneficiary of the boundary award, have mutually agreed to open negotiations directly with each other, and without the intervention of any other nation, in the hope of arranging a modification of the Argentina territorial award which will be satisfactory to all parties concerned.

The area which is the immediate subject of the negotiations under review is just south of the territory ceded by Bolivia to Brazil following the activity of Sir Martin Conway, a few years ago, under concessions from the government of Bolivia.

RUBBER SCRAP FROM MALAYA.

Sing a song of rubber;
Estimates revised!
Shareholders in plenty
Pleasantly surprised.
When the annual meeting
Shows the profits net,
Won't there be a chorus,
"Come and have a wet!"

—Malay Mail.

NEW TRADE PUBLICATIONS.

UNDER the title "Rubber for Railroad Requirements" The Diamond Rubber Co. (Akron, Ohio) issue a catalogue of air brake and other hose called for in railroad practice, the description of which is supplemented by some very informing comments on the kind of hose suited for the best railroad work, and suggestions as to why some hose is better than other makes. The catalogue is unusually attractive in appearance, as well as original in its contents. [4" X 6 1/4". 24 pages.]

JAMES L. GIBNEY & BROTHER (Philadelphia), in their new illustrated catalogue of Gibney Tires, include in addition to their special brands the output of the leading makers of pneumatic and solid tires, for automobiles and motor trucks and automobile accessories generally. [6 3/4 ins. x 10 ins. 168 pages.]

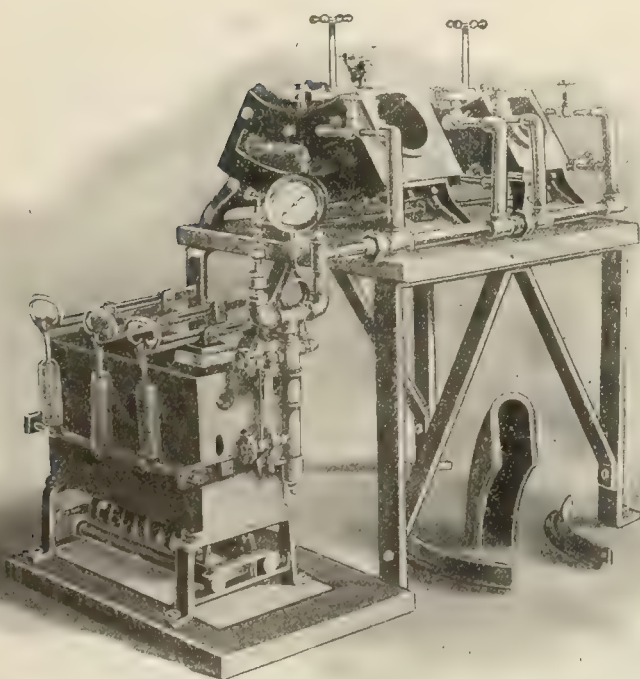
ALSO RECEIVED.

FORD Manufacturing Co., Chicago.—Galvanized Rubber Roofing. 8 pages. A Few Testimonials. 32 pages.
Abbie Engineering Co., No. 220 Broadway, New York.—Catalogue No. 4—Pulverizers. 62 pages. Pebble Mill Specialties. 62 pages.

DEVOTION to athletic sports is no more general than the demand for light footwear that is equally suitable for gymnasium purposes and for open-air exercise. Shoes with rubber soles, specially made for this purpose, are in great favor, although they are sometimes found objectionable because they overheat the feet. Insoles of various kinds have been used to overcome this objection, and the Asbest und Gummiwerke Alfred Calmon, of Hamburg, have recently been successful in combining the rubber sole with a specially prepared asbestos insole in such a manner that their disadvantages have been much increased by utilizing the good qualities of asbestos as well as of rubber.

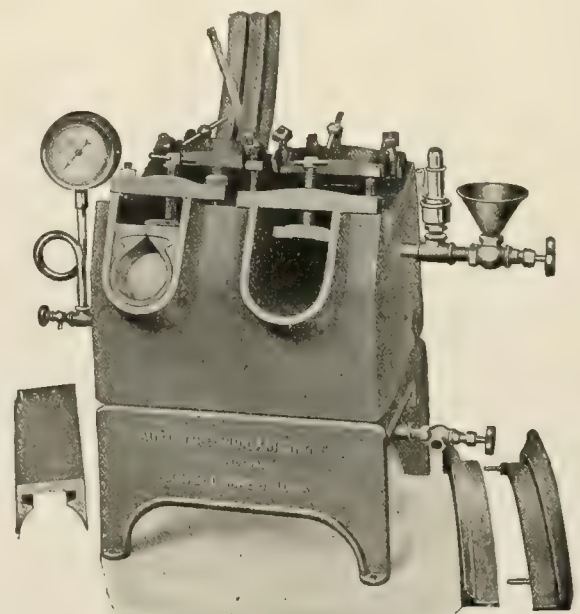
A RECENT issue of THE AMERICAN, of Bluefields, Nicaragua, mentioned that Mr. Gordon Waldron, manager of the "Canada" plantation of the Cukra Co. of Toronto, Limited, was planning to begin soon the tapping of rubber. They have already been exporting bananas for some time.

THE Boston Herald hears from Kingston, Jamaica, that a company has been formed in England with £300,000 capital to establish a chain of central sugar factories on that island, and grow rubber.



AKRON-WILLIAMS COMBINATION GAS BURNER SIFAM GENERATOR
REPAIR EQUIPMENT.

[The Williams Foundry and Machine Co., Akron, Ohio.]



NEW IMPROVED ADJUSTABLE SECTIONAL VULCANIZER.

[Made to connect with steam boiler or with gas or gasoline burners. For any size tire of standard make. Auto-Tire Vulcanizing Co., Lowell, Massachusetts.]

Recent Rubber Planting Results.

FOUR YEARS' RECORD OF CICELY ESTATE.

ONE of the most informing contributions to the subject of rubber plantation results to date is the address of the chairman of the Cicely Rubber Estates Co., Limited, at the fourth annual meeting of the shareholders (London, July 9). The whole is too lengthy for repetition here, but broadly it may be summed up thus: The Cicely estate has been finished and the shareholders have already had all their money returned, besides which they own a very profitable estate.

The company was registered in London December 20, 1904, with £12,000 [\$58,398] capital authorized, to acquire the "Cicely" estate, in Perak, Federated Malay States, on which 138 acres had been planted, with 15,000 *Hevea* trees. The capital was divided equally between ordinary shares and 5 per cent. preference shares. The preference shares rank equally with the ordinary in each year after they have received their 5 per cent. The £6,000 in ordinary shares were taken by the vendors in part payment for the property; they received in addition £3,300 [= \$16,059] in cash, from the proceeds of the £6,000 in preference shares offered to the public. In 1908 4,000 new ordinary shares were issued, at a premium of £2 per share, and all are now fully paid, amounting to another £12,000 [= \$58,398]. The total investment to-day, therefore, stands at £24,000 [= \$116,796], of which £18,000 [= \$87,597] has been in cash.

The original acreage, with subsequent additions, amounts to 829 acres, distributed as follows:

Original clearings and foreclosures (planted 1898 to 1900)....	159
Planted 1905	194
Planted 1906	241
Planted 1907	200
Planted 1908	35
Total	829

The results attained thus far have been from the larger trees on the 159 acres; this year the remainder of the trees on this tract will be tapped, together with part of the 1905 planting; next year the larger trees of the 1906 planting will become tappable and so on.

The yield of rubber and the financial returns have been as follows:

Yield (pounds)	9,184	19,069	43,605	54,341
Average per tree	1.32	2.37	4.85	6
Average price realized.....	5s. 6d.	4s. 11d.	3s. 6d.	4s. 7d.
Cost of rubber per pound.....	2s. 10d.	1s. 9d.	1s. 2d.	1s. 2d.
Trees tapped	6,010	8,020	9,000	9,000
Dividends, preference	10%	20%	4 1/4%	55%
Dividends, ordinary	5%	15%	37 1/2%	50%

[a Collection and shipment, excluding London charges.]

The company has returned to the shareholders, in the four years of operation, a total of 107 1/2 per cent. on their ordinary shares and 127 1/2 per cent. on the preference shares.

With relation to prices, the chairman said: "Of course we have no control over the selling prices, and I am not at all sure whether it would be good policy to try to control them. We naturally wish to get as much for the crop as we can, but hitherto we have objected to forward sales. This is a speculative business which does not commend itself to us, and we have never adopted that policy. We have had several offers, but we do not think that we ought to sell our crop forward, so that shareholders will know that, whatever happens to be the price of rubber—whether it goes up or whether it goes down in the autumn—we shall be selling our rubber at that current price. We have got our rubber to sell, and we do not propose to sell our crop in advance for a year or for years or anything of that sort. The average price last year was 4s. 7d. [= \$1.11, gold] to March 31. - - - A few months ago we had an offer to sell the whole of our crop for this year at 5s. [= \$1.21] per pound; at the last board meeting we had an offer of 5s. 8d. for the year's crop; and we have got to-day a further

offer of 6s. 1 [= \$1.40] per pound. - - - We have sold nothing under 5s. 8 1/2d. [= \$1.38] since we had the offer of 5s. and recent sales have been at 6s. 1 1/2d., 6s. 3 1/2d., 6s. 4 1/2d., 6s. 7 3/4d., and 6s. 8 1/4d. [= \$1.62 1/2]."

It will be seen from the table in this article that all the trees tapped on the Cicely estate in 1908 averaged 6 pounds of rubber. Nine thousand trees were tapped in that year, and 9,000 in 1907, but they were not altogether the same trees; in other words, 3,000 of those tapped in 1907 "rested" last year, and 3,000 others were tapped which had not been cut in the preceding year. What effect this may have had on yield is not stated.

At the annual meeting two years ago, when the average yield was less than 5 pounds, the chairman said that as much as 8 pounds of dry rubber had been obtained from one tree, in 100 tappings. Covering a period of two months, and "lots of other trees do the same."

COST OF PLANTATION RUBBER.

THE Ceylon newspapers contain interviews with Mr. J. A. Hunter, a former planter in Ceylon, who has become interested in the Malay States and is now visiting in England. With regard to the yield of *Hevea* in Malaya, and the cost of production, Mr. Hunter is quoted:

"Mature trees are yielding 3 to 5 pounds of dry rubber per tree [per year]. A fair day's work for each coolie is 3 pounds of dry rubber—that is his task—and he gets that by using the old-fashioned 3/8-inch gouge. The best tapping I have seen has been done by that instrument and not by the patent knives. The gouge does not do any damage and we get big yields. On some estates the yields I have mentioned have been secured now for two or three years.

"This year is an exceptionally good year for rubber. There has been a lot of rain, and no semblance of drought anywhere, and everywhere I hear of the crops being well ahead of the estimates and expectations."

With each coolie bringing in 3 pounds a day, at what do you put down the cost of production now?"

"I know one or two estates that are laying down their rubber in London at a shilling. That includes the total cost of production and freight to London. The coolie who brings in 3 pounds per day is paid 50 rupee-cents [= 16 1/4 cents, gold] a day. I put down the cost of tapping only at 16 to 20 rupee-cents [= 5.2 to 6.5 cents, gold] per pound of dry rubber.

"In that case the old labor estimate of one and a third coolie to the acre was a good deal out?"

"Yes. The coolie working full time brings in practically 1,000 pounds of dry rubber in the year. We calculate upon getting 250 to 300 pounds per acre as a fair average yield, so that gives one coolie to every three to four acres. Keeping absolutely on the safe side, I think it can very well be assumed that one coolie can tap from three to four acres."

NEW RUBBER PLANTATION COMPANIES.

Among the important rubber-planting companies floated in London during the month were: (1) The Java United Plantations, Limited, with £200,000 [= \$973,000] capital, to acquire and consolidate five estates in the district of Djember, Java, already planted to an important extent to rubber, coffee and tobacco. There are on these properties about 95,000 *Hevea* and 83,000 "rambong" (*Ficus*) trees. (2) Jong-Landor Rubber Estates, Limited, with £65,000 [= \$316,322.50] capital, to acquire two estates in Perak, Federated Malay States, on which there have been planted respectively 383 and 694 acres of *Hevea* rubber. (3) Tangkah Rubber Estate, Limited, with £125,000 [= \$608,312.50]

capital, to acquire and further develop an estate in Johore, Malay peninsula, on which 1,884 acres have been planted to rubber, but mostly among pepper and tapioca. (4) Jamaica Estates and Rubber Plantations, Limited, with £300,000 [= \$1,459,950] capital, to acquire properties in Jamaica and elsewhere and plant or deal in sugar, bananas, rubber and hardwood. Sir Henry Arthur Blake, G. C. M. G., formerly governor of Jamaica and late governor of Ceylon, is one of the directors. (5) The Rembia Rubber Estates, Limited, with £60,000 [= \$251,990] capital, to acquire a group of estates in Malacca, Malay peninsula, on which 754 acres are now planted to *Hevea* rubber.

COMPARATIVE RESULTS.

[See THE INDIA RUBBER WORLD, June 1, 1909—page 311.]

BUKIT Rajah Rubber Co., Limited.—Federated Malay States:

	1907.	1908.	1909.
Yield (pounds)	118,082	163,521	210,681
Selling price, gross.....	5 3/62d.	3 8/87d.	4 9/84d.
Dividends	30%	30%	55%

Trees tapped last year, 94,600; average per tree, 2.22 pounds, or 1 ton per 1,000 trees.

Vallambrosa Rubber Co., Limited.—Federated Malay States:

	1907.	1908.	1909.
Yield (pounds)	156,922	225,302	281,183
Selling price, net.....	5 1/5d.	3 7/8d.	.....
Dividends	55%	55%	80%

Federated (Selangor) Rubber Co., Limited:

	1907.	1908.	1909.
Yield (pounds)	7,871	23,618	59,604
Selling price, net.....	.....	3 7/8d.	4 7/25d.
Dividends	nil	8%	30%

Trees tapped last year, 34,072, including 5,000 tapped two months only; average yield, 1 3/4 pounds per tree.

Cicely Rubber Estates Co., Limited.—Federated Malay States:

	1907.	1908.	1909.
Yield (pounds)	19,069	43,695	54,300
Selling price, net.....	.....	38. 6d.	45. 7d.
Dividend, preferred	20%	42 1/2%	55%
Dividend, ordinary	15%	37%	50%

RUBBER PLANTING IN BRITISH BORNEO.

THE British North Borneo Co., a chartered company having sovereign and territorial rights over the whole of the state of British North Borneo, continues to report favorable progress. The revenue for 1908 was £152,946, and the dividend declared 4 per cent.

This chartered company has granted concessions on favorable conditions to a number of companies for planting rubber, tobacco, and other crops. The rubber companies so formed to date in its territory are:

Sapong Rubber and Tobacco Estates, Limited. Formed April, 1905; offices, London; capital issued, £71,378; rubber planted, 730 acres.

British Borneo Pará Rubber Co., Limited. Formed April, 1905; offices, Glasgow; capital issued, £28,000; rubber planted, 900 acres.

Tenom (Borneo) Rubber Co., Limited. Formed January, 1906; offices, Glasgow; capital subscribed, £60,000; rubber planted, 1,300 acres.

Manchester North Borneo Rubber Co., Limited. Formed November, 1906; offices, Manchester; capital subscribed, £50,000; rubber planted, 700 acres.

Langkon North Borneo Rubber Co., Limited. Formed March, 1906; offices, London; capital subscribed, £60,000; rubber planted, 950 acres.

Beaufort Borneo Rubber Co., Limited. Formed 1907; offices, London; capital subscribed, £60,000; rubber planted, 700 acres.

Sekong Rubber Co., Limited. Formed June, 1908; offices, London; capital allotted, £60,007; rubber planted, 300 acres.

North Borneo State Rubber, Limited. Formed November, 1908; offices, London; capital subscribed, £100,000; rubber planted, 400 acres.

The authorized capital of these eight companies is £760,000; the amount of capital issued, as shown above, £489,385, in addition to £38,622 in debentures. The acreage of rubber planted, at latest accounts, mostly *Hevea*, was 6,000. Some of these companies are planting tobacco temporarily. Rubber has been tapped on the Sekong estate for two years past, some of the product selling in London on June 25 at 6s. 10 3/4d.

RUBBER PLANTING IN INDIA.

LITTLE attention has been attracted to the rubber planting in southern India as yet, for the reason that the estates there have not become productive. But considerable rubber is being planted

there, and with good prospects. The Travancore Rubber Co., Limited, an Edinburgh company, with £40,000 capital, have an estate in the state of Travancore, which is in the same latitude as northern Ceylon, on which are 19,367 *Hevea* trees planted in 1905, 167,433 planted in 1906, and 18,075 planted in 1907, besides 20 acres planted to Ceará rubber in 1906. It is anticipated that 7,000 pounds of rubber will be secured next year. The estate outlay in 1908 was £3,448.

BRIEF MENTION.

At a special meeting of shareholders of Manchester North Borneo Rubber, Limited (Manchester, May 21), it was voted to increase the capital from £65,000 to £100,000, to provide for increasing the company's area under rubber. The company is planting tobacco largely as a temporary crop.

Rubber Estates of Johore, Limited, began planting in March, 1907, and at the last annual meeting (London, May 4) it was reported that over 3,300 acres had been placed under rubber. The oldest rubber had cost to date about £14 10s. [= \$70.56] per acre.

Kautschuk-Plantage Mombo, G. m. b. H., has been registered at Arnstadt, Germany, with a capital of 510,000 marks [= \$121,380], to plant rubber at Mombo, in the Wilhelmstal district, German East Africa. It is formed to develop a plantation already started by Robert Trautman, of Arnstadt, and Gustav Weisflog, of Erfurt, Germany, who are the organizers of the new company.

Mr. H. A. Wickham, who will be remembered in connection with the original introduction of the cultivation of *Hevea* rubber into the Far East, is still active in connection with rubber interests, as indicated by his share in the organization of Mom-biri Rubber Plantations, Limited, with £52,000 capital, registered in London, April 20, 1909. The object is to acquire the benefit of a lease granted to Mr. Wickham of an estate in Collingwood Bay, East coast of Papua (New Guinea), to adopt agreements with Mr. Wickham, and to carry on the business of rubber culture. One of the signatories is Mr. Wickham, whose address now is 9, James street, Westbourne terrace, W., London.

SMOKED PLANTATION RUBBER.

MUCH interest has been expressed in the London market in the smoked sheet rubber from "Vallambrosa" and other Malay States plantations. Some lots have been received also from British North Borneo. Gow, Wilson & Stanton Co., Limited (London), advise: "The high prices recently obtained for fine smoked sheet have attracted considerable attention, but we would strongly urge that the utmost care should be taken in the preparation of such rubber, which should be kept absolutely clean and uniform, as varying and unsatisfactory shipments coming on the market would be liable to prejudice buyers."

The plantation managers are striving earnestly to produce rubber of the highest possible quality, and the fact that they are experimenting with the smoking process is evidence of an idea being entertained that the superiority in some respects of Amazon Pará to plantation rubber may be due to the use of smoke in the coagulation of the latter. At the recent meeting in London of the Lanadron company the chairman called attention to their having consulted chemists with regard to the production of their rubber. The London correspondent of *The Times of Ceylon* recently telegraphed his paper:

"The leading rubber companies are supporting a scheme to send a chemist to the Straits, independent of government, to improve the curing of rubber. It is probable that the scheme will be extended to Ceylon."

THE Dutch government have conferred upon Dr. A. G. N. Swart the decoration of an officer of the Order of Orange-Nassau, as a recognition of his services as president of Netherlands commission to the International Rubber and Allied Trades Exhibition at London last year.

The Editor's Book Table.

INTERNATIONAL RUBBER CONFERENCE.

THE official record of the conferences held in connection with the International Rubber Exhibition (London, 1908) has now come from the press, and proves to be an important contribution to the literature of india-rubber. The various lectures and discussions were reported verbatim, and the papers read are printed in full. The result is a volume of 272 pages, on which the printer has put a great deal more matter than is contained on the ordinary book page. The editing of the book has been excellently done by Dr. David Spence, who also translated into English several papers presented in other languages. The editor's work has been far from perfunctory, what, with providing a general introduction, notes introducing the different papers, and frequent footnotes. He has supplied also a table of rubber yielding species, with their geographical and botanical origin, which is the fullest and most accurate to date.

While the most distinctive characteristic of the rubber show was its representation of the planting interest, there was uppermost in the minds of those present the forest rubber of Brazil—the real "Pará" rubber. The conditions of its production, its quality, how far it may be imitated on plantations, and other like questions are of concern to planters whose ambition is to produce something at least as good as native rubber, if not better. The first lectures presented here, therefore, relate to Brazilian rubber—by Mr. N. H. Witt, long in the Amazon trade, and Mr. H. Vasconcellos, special commissioner from Brazil.

Next come eight papers, relating to the present position of rubber cultivation in various countries. Mr. Herbert Wright treated of the Eastern rubber industry in general, Mr. J. B. Carruthers of that in the Malay Peninsula in particular, Sir Daniel Morris dealt with the West Indies, Dr. Olsson-Seffer and the Editor of THE INDIA RUBBER WORLD with Mexico, and M. Henri Jumelle with Madagascar, the latter being a field less known in relation to its rubber resources than almost any other. There are papers dealing with the progress of rubber culture and the extent which it has attained, being followed by a series of nine papers on problems in relation to the cultivation of rubber.

Drs. Frank and Marckwald discussed a new method of coagulation. M. Van den Kerckhove the packing and storing of rubber in the Colonies, Professor F. E. Lloyd the Mexican guayule plant and its product, and so on. Mr. Carruthers discussed "Clean Weeding *versus* Cover Planting," while Mr. Beadle and Dr. Stevens presented an interesting paper on the possible utilization as a material for paper making of the lalang grass, which up to date has proved such a nuisance on Malayan rubber plantations.

The chemistry of india-rubber and allied subjects forms the next division of this book, beginning with Mr. Pearson's "Synthetic Rubber I Have Met." Dr. Spence contributed a study of the latex of rubber-producing plants, Dr. Rudolph Ditmar a paper on the absorption and diffusion of gases by india-rubber and the application of these processes in aerial navigation, and so on. Only four lectures bore directly upon the manufacture of rubber goods, and these belonged in the field of chemistry, with the exception of one by Dr. P. Schidrowitz on the relation of the manufacturer to the consumer.

It is not designed here to review in detail the Rubber Conference Handbook, or even to mention all the items which compose it, but rather to give an idea of the general character of the contents. It should be added that the authors of the various papers are men of distinction in their various fields of work, and that what they have added to the world's knowledge of rubber in this volume is of no little value.

THE CULTIVATION AND PREPARATION OF PARA RUBBER. By W. H. Johnson, F.L.S. . . . Second edition, rewritten and greatly enlarged. . . . London: Crosby, Lockwood & Son, 1909. [Cloth. 8vo. Pp. xii + 178. Price, 7s. 6d., net.]

THIS work, in its original form the first book devoted to the cultivation of Pará rubber alone, in the revised edition represents the latest word on the subject. From whatever point of view it does not suffer in comparison with any work on rubber culture; in fact, it rather appears to us to deserve the palm as a practical treatise for planters or those intending to become such. The author, while director of the Gold Coast Colony, West Africa, was commissioned by his government to visit Ceylon to study the methods employed there in the cultivation and preparation of Pará rubber, with a view to its introduction into his colony. Mr. Johnson already had demonstrated that the output of native rubber was on the decline, and it was reasoned that if rubber was to be cultivated, the best species should be planted, if it should be found adapted to West African conditions.

The first edition of this work was the result. It was concluded at the Kew Gardens, where the author dated his preface in September, 1904—before the world had become impressed with the practical character of rubber culture as being developed in the East. Meanwhile Mr. Johnson has accepted the position of director of agriculture for that important region in East Africa controlled by the Companhia do Mocambique—a Portuguese enterprise. Here it is part of his work to supervise both the development of native rubber resources and the introduction of rubber planting; hence he has kept in touch with the progress made in the cultural production of Pará rubber. The preface to this later edition was dated at Beira, East Africa, in December, 1908.

The new book contains about 3½ times as much matter as the first edition, and 33 illustrations instead of 4, as in the former volume. It is thus practically a new work, although the original chapters are retained, subject to revision where this has been rendered necessary by the progress of time. As we have said, this book is eminently practical in character. Where it touches upon points outside the authors personal experience or observation, credit is given for his authorities.

The subjects treated embrace seed selection, seed growing, site for plantation, choice of soils, manuring, planting and care of young plants, pests, collection of latex, coagulation, drying and packing rubber for export, and so on. There are details of yields of rubber, preliminary to detailed estimates for the establishment and maintenance of a Pará rubber plantation, the latter being based upon actual practice in Ceylon and the Federated Malay States. The author evidently regards an average of 2 pounds per tree, 150 trees per acre, as a normal yield from and after the eighth year, without going into the question of the productive capacity of trees beyond eleven or twelve years. The cost of putting rubber on the market is figured at 1s. 6d.

The illustrations relate mainly to devices or apparatus for extracting latex and preparing rubber for the market. The mechanical side of the subject is of particular interest, since so many of the machines pictured have come into existence since the origin of rubber culture, being designed for this purpose alone.

IN CURRENT PERIODICALS.

La *Ficus elastica* à Java. Plantation de Bandjarm. By J. Kerbert. [Consideration of the advantages of planting this species as compared with *Hevea brasiliensis*] *Journal d'Agriculture Tropicale*, Paris. LX-92 (Feb. 29, '09). Pp. 41-45.

Etude générale sur le *Ficus elastica* (Roxb.). By Georges Vernet. = *Le Caoutchouc et la Gutta-Percha*, Paris. VI-60 (Feb. 15, '09). Pp. 2689-2972.

The Congo Question. By Felix H. Hunicke. [Relates particularly to the conditions—as regards both the Congo government and concessionaire companies—of rubber gathering by the natives; deals to some extent with the American Congo Co.] *The North American Review*, New York. CLXXXIX-4 (Apr. '09). Pp. 604-614.

News of the American Rubber Trade.

SALE OF THE ATLANTIC RUBBER SHOE FACTORY.

THE factory building at Cranston, near Providence, Rhode Island, erected in 1903 by the Atlantic Rubber Shoe Co., and in which operations ceased in 1904, has been purchased by the Maxwell-Briscoe Motor Co., who have taken possession and are transforming it to suit their purposes. The land, buildings and machinery were purchased at auction November 2, 1906, by William H. Perry, of Providence, for \$137,000. The Maxwell-Briscoe Co. take title from Mr. Perry, the consideration stated in the papers being \$121,000. A provision that the deed stipulates that the new owners shall not engage in the manufacture of rubber goods.

The Maxwell-Briscoe Co. have factories at Tarrytown, New York, and Newcastle, Indiana, and thus will have three plants in operation for the coming season, when they expect to build 1,000 cars, of an aggregate value of \$1,000,000.

REMOVAL OF A RUBBER FACTORY.

THE Flexible Rubber Goods Co., Inc., are removing their plant from Winsted to Salisbury, Connecticut, where they will occupy the old bicycle factory. John E. MacEwen, some time with the Davidson Rubber Co., it is stated, is to be superintendent. The Flexible company recently increased their capital to \$35,000. The flexible suction cup shoe and the military rubber horse brush made by the company have already attained a wide reputation at home and abroad. The company are also planning to manufacture an automobile suction tire.

NEW FACTORY CONSTRUCTION.

WORK was started recently on an addition to the premises of the American Hard Rubber Co., at College Point—a three-story brick building 45x95 feet, to be used as a machine shop.

The Rockland Webbing Co. (Rockland, Massachusetts), are enlarging their plant. Work was begun during the month on a two-story addition 70x52 feet.

The Fairfield Rubber Co. (Fairfield, Connecticut) on July 7 opened a new shipping room, which had just been finished.

NEW FIRM IN RUBBER CEMENT.

FRED M. PAGE & Co., Nos. 74-76 Brookline street, Lynn, Massachusetts, have added to their line of shoe findings the manufacture of rubber cement. The company lately purchased the plant of the Hadley Cement Co., and the manufacture of cement by them will be in charge of Albert H. Hadley, who was president of the latter company. Their capacity is mentioned as being from 90 to 125 barrels a day.

UNITED STATES RUBBER CO.—DIVIDEND.

THE directors of the United States Rubber Co., on July 1, declared from net profits the regular quarterly dividend of 2 per cent. on the first preferred shares, and the regular quarterly dividend of 1½ per cent. on the second preferred shares, payable on July 31, to holders of record on July 15.

WOONSOCKET RUBBER CO.—SHUTDOWN.

THE following notice is posted at the Millville factory of the Woonsocket Rubber Co.: "In order to make extensive repairs and alterations it will be necessary to shut down this mill for the month of August. Last day's making Friday, July 30. First day's making on starting Tuesday, September 7."

The employes of the "Alice" mill at Woonsocket are to be given a vacation and the mill will probably be shut down for a period of two weeks, ending with September 7, which is Labor day.

HOOD RUBBER CO.—EXTENSION.

THE Hood Rubber Co. are reported to be planning to manufacture their own requirements in felt, for which purpose another building is to be added to their already large plant, at Water-

town, Massachusetts. The valuation of the company's property, for taxation, will probably be more than \$1,000,000; last year it was over \$900,000. Under a new law which goes into effect this year one-half of the corporation taxes assessed on the stock held by the stockholders go to the town where the corporation is in business, so that Watertown has an additional reason for interest in the growth of the Hood factory.

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for four weeks, ending July 24:

COMMON STOCK.

Week July 3....	Sales	550 shares	High	38¾	Low	38½
Week July 10....	Sales	600 shares	High	38	Low	38
Week July 17....	Sales	1,000 shares	High	39	Low	38¾
Week July 24....	Sales	1,200 shares	High	39¼	Low	38¾
For the year—High, 42½, June 4; Low, 27, Feb. 24.						
Last year—High, 37½; Low, 17½.						

FIRST PREFERRED STOCK.

Week July 3....	Sales	650 shares	High	116½	Low	115½
Week July 10....	Sales	900 shares	High	117¾	Low	117¼
Week July 17....	Sales	2,540 shares	High	118	Low	115¼
Week July 24....	Sales	1,354 shares	High	117½	Low	116¾
For the year—High, 118¼, June 7; Low, 98, Jan. 29.						
Last year—High, 108; Low, 76.						

SECOND PREFERRED STOCK.

Week July 3....	Sales	500 shares	High	82½	Low	82
Week July 10....	Sales	— shares	High	—	Low	—
Week July 17....	Sales	400 shares	High	84¾	Low	83½
Week July 24....	Sales	150 shares	High	83	Low	83
For the year—High, 85, June 4; Low, 67½, Feb. 25.						
Last year—High, 75¼; Low, 42.						

SIX PER CENT. CERTIFICATES.

Week July 3....	Sales	54 certs.	High	105½	Low	105
Week July 10....	Sales	47 certs.	High	105½	Low	105½
Week July 17....	Sales	38 certs.	High	105½	Low	105
Week July 24....	Sales	70 certs.	High	106	Low	105½

TRADE NEWS NOTES.

THE National India Rubber Co. (Bristol, Rhode Island), were the successful bidders for rubber insulated lead covered underground cables for the city of Buffalo, New York, to be used for putting underground the cables of the fire and police departments. The amount of their bid was \$40,433.05.

It is announced that a Montreal syndicate headed by Mr. D. Lorne McGibbon, president of the Canadian Consolidated Rubber Co., Limited, have acquired 100,000 shares in the La Rose Consolidated Mines Co., in Canada, giving rise to the suggestion that Mr. McGibbon would join the board of directors.

The Pennsylvania Rubber Co. (Jeannette, Pa.) have arranged for the insurance of all inner tubes of their make which go into use in Pennsylvania casings this year, the insurance to cover all damage except such as may result from tires being driven deflated.

The Firestone Tire and Rubber Co. (Akron, Ohio) are opening a branch at Seattle, Washington, at No. 918 East Pike street, under the management of E. L. Campion. This is the tenth branch established by the company, in addition to the 25 general distributing agencies for Firestone tires and demountable rims.

A convention of branch managers of the Ajax-Grieb Rubber Co. was held at the factory, at Trenton, New Jersey, July 28-31. It was attended by representatives of the company from as far west as Seattle and San Francisco.

The *Gummi-Zeitung* reports: "We have been informed that Dr. Hugo Herzfelder intends to resign his office as chief superintendent of the Actiengesellschaft für Luftlos-Elastische Fahrzeugbereifung (Airless Elastic Vehicle Tire Co.), and to utilize his process for his own account. Dr. Herzfelder, who has been engaged for the past fifteen years in practical work, was employed during four years in American rubber works."

NEW INCORPORATIONS.

CENTRAL CITY RUBBER CO., July 13, 1909, under the laws of New York, capital, \$50,000. Incorporators: David A. Gould (No. 129 East Water street), John R. Graham, George H. Lyold, A. Park Sager, and Daniel A. Pierce, all of Syracuse, New York.

Mechanical Rubber and Cable Co., July 23, 1909, under the laws of Connecticut; capital, \$30,000. Incorporators: William J. Brown, R. Frederic Dunham, and Peter A. Sharp, all of Bridgeport, Connecticut.

United Rubber Co., June 26, 1909, under the laws of Ohio; authorized capital, \$200,000. Incorporators: James Christy, W. W. Wildman, M. S. Long, J. W. Miller, and Will Christy, all of Akron, Ohio. James Christy has been elected president, J. W. Miller vice-president, S. E. Conner secretary and treasurer, and W. W. Wildman general manager. The company expect to engage in the rubber reclaiming business on a large scale, succeeding the Aladdin Rubber Co.

McTernan Rubber Co., June 24, 1909, under the laws of Maine; capital, \$1,500,000. Incorporators: William H. Gulliver, William E. Cullinan, C. F. Tennant, and Clarence E. Burdin, all of Portland, Maine. Clarence E. Eaton is mentioned as president, C. F. Tennant, treasurer, and W. H. Gulliver clerk.

Colonial Rubber Works, July 13, 1909, under the laws of Illinois; capital, \$7,000. Directors: Henry Nyberg, Everett McConnell, and Emerson McConnell. Principal office: No. 2436 Michigan avenue, Chicago.

TRADE NEWS NOTES.

THE Hartford Rubber Works Co. have adopted the Dow standard demountable rim, which they will market in connection with their Hartford Automobile tires. This rim is extremely neat in appearance and is operated by a key which loosens the rim from the felloe, when the tire and rim can be lifted off without difficulty.

While the bulk of the estate of the late Robert D. Evans was bequeathed to his widow, provision was made for his nephew, Rene Evans Paine, who for many years acted as Mr. Evans's private secretary.

The manufacturers of rubber tires have issued revised lists of prices, which took effect on July 16. The advance ranges from 15 to 25 per cent.

Mr. H. G. Nicholls, for several years assistant general manager of the Canadian General Electric Co., has resigned that position in order to go into business for himself. He has organized a company called Factory Products, Limited, in Toronto, for the purpose of acting as Canadian selling agents for representative manufacturers.

The Consolidated Canadian Rubber Co., Limited, are authoritatively stated to have done particularly well during the half year ended June 30, with earnings at the rate of 30 per cent on the common stock, after providing for all expenses, fixed charges, and preferred dividends.

Mr. Henry H. Holland, manager of the London office of the United States Rubber Co., was on a visit to the United States during July. He reports the outlook of the company's business in Europe for the coming season as very bright.

The only rubber company whose exhibit at the First World's Shoe and Leather Fair, in Boston, was ready at the opening was the Hood Rubber Co. This display was complete and fully lighted when the exhibition building was opened to the public on the evening of July 1.

The Kensington Association Institute, of Philadelphia, announces the opening in October of the School of Industry and Chemistry. The lectures and laboratory work will be limited to organized chemistry, and will be carried on in four departments, one of which is the chemistry of rubber and forest products. The work in this department will include the study of the raw materials, and process and products characteristic of the rubber industry. The instruction

will consist, in the main, of laboratory work supplemented by reading and lectures, with the aid of the best German and American text books. Further information can be obtained by applying to the director, Dr. Frederic Danneth, No. 204 Walnut Place, Philadelphia.

Parker R. Bradley, of No. 51 Johnson street, Newark, New Jersey, who was formerly a manufacturer of imitation leathers, is now devoting himself to the manufacture of leather from hides.

The Essex Rubber Co. (Trenton, New Jersey) are erecting a two-story addition to their plant on May and Beakes streets—of brick and iron construction, 30x85 feet.

The American Asphaltum and Rubber Co. have purchased a large amount of real estate in Chicago lately—a tract 137 x 1,026 feet, on which is a brick factory, and a vacant lot 137 x 121 feet.

Mr. Lucius L. Torrey, president of the Pennsylvania Rubber Co., of San Francisco, made a visit to the east during July, which he extended as far as Massachusetts.

Mr. Carl P. Cartmell, connected for some time past with the Derby Rubber Co., and widely known in the trade, has joined the sales department of the Victor Rubber Co. (Springfield, Ohio).

In the matter of Pneu l'Electric Co. (New York), bankrupt [see THE INDIA RUBBER WORLD, April 1, 1909—page 256], the referee in bankruptcy announces the declaration of the first dividend out of the estate, of 5 per cent. upon claims proved and allowed.

CHARLES R. FLINT AND THE NEW YORK MAYORALTY.

AN interview with Justice Gildersleeve, of the New York Supreme Court, who is spending a vacation in London, cabled to the New York Times, relates to municipal politics in New York. Speaking of the mayoralty, he is quoted as saying:

"Charles R. Flint is another good man for the mayoralty [he had previously mentioned J. Pierpont Morgan], possessing broad ideas, great business experience and excellent ability in finance. He is practical, aggressive and honest, of the right age, writes ably on economics, and would make a fine mayor. He is wealthy and could afford to make the material sacrifice which the fulfillment of the duties of the office would involve."

GEORGE C. SANBORN.

GEORGE C. SANBORN, who died in Chicago on June 28, had been for a number of years interested in rubber culture in Mexico. The organization of the Mexican Mutual Planters' Co. was due chiefly to his interest and confidence in the future of the rubber supply, and he was its president and a director from the beginning. The company formed and now owns the plantation "La Junta," in Vera Cruz, one of the most important rubber undertakings in Mexico.

PERSONAL MENTION.

MR. HANS ANGELL KOPP, who is in business with his father, Julius Kopp, dealer in india-rubber goods at Copenhagen, Denmark, with branches in other Skandinavian cities, was a visitor to the United States during the past month. Julius Kopp once lived in New York and became an American citizen, afterward serving as lieutenant in the Twenty-eighth New York Volunteers during the civil war. The house of Kopp since 1882 have represented the Goodyear's India-Rubber Glove Manufacturing Co. in Denmark. Another son of Mr. Kopp is an electrical engineer who has made some inventions of importance in wireless telephony, and is now connected with the Collins Wireless Telephone Co. (Newark, New Jersey).

REFERRING to the contention of some rubber planters that the expense of clean weeding can be avoided by encouraging the growth of certain weeds which keep other and less desirable growths in subjection, the *Tropical Agriculturist* suggests: "More water evaporates from a soil covered with plants than from a naked tilled soil, so that in dry places the clean weeding is probably the better."

POOR RESULTS IN LIBERIA.

THE successes attained by the rubber planting companies organized in the British empire do not seem to be repeated in the case of any of the companies organized with British capital to exploit forest rubber in any country. The latest disappointment of moment in this respect has to do with The Liberian Rubber Corporation, Limited, floated a few years ago with a capital of £270,000. [See THE INDIA RUBBER WORLD, January 1, 1906—page 124; February 1, 1906—pages 146, 147.] Sir Henry H. Johnson, G. C. M. G., the African authority, who was largely instrumental in the organization of this company, has since retired from the board. But he attended the third annual meeting (London, July 9), and encouraged the shareholders to look for better results than have been secured thus far. The gross output of rubber in 1908 was 182,578 pounds, which was stated to be an increase for the year of nearly 37,000 pounds. The business had been done at a loss, however, partially because rubber sold during the year for a shilling per pound less than was anticipated, and the company's work had been interfered with by the disturbances in Liberia. The gross profit was £10,100, or £2,300 less than in 1907, but there was again a net loss. But Sir Harry pointed out that Liberian affairs are quieting, and rubber prices have advanced again. Considerable *Funtumia* rubber has been planted by the company, but this variety, although planted successfully in other regions, does not seem adapted to Liberia, and the company have begun replanting with *Hevea Brasiliensis*.

ANOTHER SYNTHETIC RUBBER CO.

THE Consolidated Rubber Co., Limited, registered in London, July 5, 1909, with £164,000 [= \$798,106] capital, has for its objects to adopt an agreement between Arthur Heinemann and others for the acquisition of a process for the synthetical production of rubber, including his patents granted and pending, and plant used in connection therewith, and to carry on the production of gases or liquids used in connection with the production of isoprene and like substances, or any of the terpenes capable of being made in the production of india-rubber or substitutes therefor. A British patent granted to Heinemann for the production of synthetic rubber is No. 21,772 (1907). The registered office of the company is at 196, Palmerston house, 34 Old Broad street, E. C., London.

This company has no relation to the Synthetic Rubber Co., Limited, at the third annual meeting of which recently in Lon-

don it was explained that while no commercial result had followed their large expenditure to date, the company felt that it was "in possession of a well-defined process for producing synthetic rubber," and they were confident of ultimate commercial success.

THEFT OF GUAYULE RUBBER.

MEXICAN newspapers report the arrest at a guayule rubber factory near Zacatecas of one of its employes, charged with the theft of rubber produced there. It is alleged that this was done for the benefit of a rival factory, with a view to revealing the secrets of manufacture by the concern employing him. He is said to have received regularly \$200 a month from the rival company, in addition to his regular compensation. The *Mexican Herald* says:

"The crime in question recalls the fact that, while most of the guayule produced is prepared under patented processes, whose details are common knowledge, a great many manufacturers of the gum keep certain elements of their extraction methods secret and take every precaution to preserve them so, and in the past there has been great activity among the owners of 'wild-cat' plants to possess themselves of the secrets of the larger companies. In certain guayule districts it is commonly considered easier for an intelligent person to take a fortress single handed than to gain access to a rubber extracting plant."

WHITTELSEY ON GUAYULE.

DR. THEODORE WHITTELSEY, of Northwestern University, at Evanston, Illinois, spent last year in experimental work on guayule, at the plant of the Continental-Mexican Rubber Co. He has written two papers on the subject, reprints of which from the *Journal of Industrial and Engineering Chemistry* (Vol. 1, No. 4—April, 1909) have reached us. The second is devoted to "Distribution of Rubber in Different Parts of the Shrub." At the April meeting of the Chicago section of the American Chemical Society the programme was: "Production of Guayule Rubber in Northern Mexico"—illustrated lecture by Dr. Whittelsey, followed by discussion.

CARE OF HOT WATER BOTTLES.—A writer in *Canadian Druggist*, who seems to think that the average purchaser does not take the proper care of a hot water bottle, advises packing with each bottle a printed slip containing suitable instructions.

Review of the Crude Rubber Market.

THE state of the market at New York is difficult to comment upon at this time, for the reason that quotations for so many grades are merely nominal. In other words, stocks of some important grades are non-existent. Actual business has been done at last reports at 43 cents a pound for Upriver fine above our quotations of one month ago, and 41 cents higher for Islands rubber. Higher quotations are made, however, in answer to inquiries, with a view to prospective higher costs in primary markets. An indication of the tendency of the market is found in the fact that at the Antwerp auctions on July 29 the average advance over the June sales was 1.50 francs per kilogram; and at the Havre sale on July 27, there was a average advance of 12 *centimes*. An advance occurred in all grades including the better Africans, but not in the same proportion as for Pará sorts. Quotations have been made as high as \$2 for plantation crepe, but business has not been done in New York at so high a figure. While the statistics of arrivals at Pará for the crop year 1908-09 vary slightly, as reported from different sources, it appears that the last crop was slightly larger than in any previous year. We have these figures: 34,490 tons for 1905-06; 38,005 tons for 1906-07; 36,650 tons for 1907-08; and

38,065 tons for 1908-09. From the latest Manáos statistics it appears that the arrivals of rubber for the crop year were slightly less than last year, and less by more than 1,000 tons than two years ago. The increased total arrivals at Manáos were made up of a gain of 1,300 tons in cacho, and the increase at Pará is similarly due to more cacho being received than formerly. Final analysis, therefore, probably will show less fine rubber received during the crop year than in some former years. Our mail advices from Pará report: "Entries continue on a moderate scale and are eagerly caught up at quickly advancing prices; it is, however, the general impression that the wild jumps of the market will come to a stop with the gradually increasing arrivals of *sertao* [Upriver] at Manáos."

An addition of the monthly reports of exports of rubber from Pará published regularly in THE INDIA RUBBER WORLD gives the following distribution of the whole for the crop year ended June 30, 1909, expressed in pounds:

To the United States.....	42,115,240
To England and the Continent.....	42,156,706
Total	84,271,946

It will be seen thus that just one-half of the whole was exported direct to New York. But THE INDIA RUBBER WORLD has also reported every month considerable arrivals of Pará rubber via Europe, which means that material in the first instance shipped across the Atlantic ultimately is consumed in America. Such arrivals during the year ended June 30 aggregated 8,000,000 pounds, which permits the following corrected statement of distribution to be made:

To the United States 50,115,240
To Europe 34,150,700

Total 84,271,040

This indicates 60 per cent. of the total output from Pará as ultimately reaching the United States. It should be mentioned, however, that the supplies for Canada are derived from this country.

Following are the quotations of New York for Pará grades, one year ago, one month ago, and July 30—the current date:

PARÁ.	Aug. 1, '08.	July 1, '09.	July 30.
Islands, fine, new.....	83 ^a /84	140 ^a /141	@181
Islands, fine, old.....	—(a) 96	143 ^a /144	@185
Upriver, fine, new.....	91 ^a /92	147 ^a /148	@195
Upriver, fine, old.....	94 ^a /95	149 ^a /150	@198
Islands, coarse, new.....	42 ^a /43	08 ^a /09	@75
Islands, coarse, old.....	none here	71 ^a /72	@78
Upriver, coarse, new.....	64 ^a /65	104 ^a /105	@120
Upriver, coarse, old.....	65 ^a /66	none here	none here
Cametá .....	.....	80 ^a /81	@92
Caucho (Peruvian), ball....	49 ^a /50	94 ^a /95	@112
Caucho (Peruvian), sheet....	60 ^a /61	80 ^a /81	@90
Ceylon (Plantation), fine sheet	104 ^a /105	155 ^a /156	@200

AFRICAN.	Aug. 1, '08.	July 1, '09.	July 30.
Lopori ball, prime.....	80 ^a /81	110 ^a /111	@125
Lopori strip, prime.....	62 ^a /63	...@...	@120
Aruwimi .....	.....	...@100	@115
Upper Congo ball, red.....	.....	104 ^a /105	@123
Ikelemba	none here	...@...	@...
Siera Leone, 1st quality....	78 ^a /79	106 ^a /107	@125
Massai, red	78 ^a /79	106 ^a /107	@125
Soudan niggers	54 ^a /55	101 ^a /102	@118
Cameroon ball	47 ^a /48	74 ^a /75	@108
Benguela	44 ^a /45	67 ^a /68	@80
Madagascar, pinky	64 ^a /65	98 ^a /99	@104
Acera flake	15 ^a /16	22 ^a /23	@24

CENTRALS.	Aug. 1, '08.	July 1, '09.	July 30.
Esmeralda, sausage	61 ^a /62	90 ^a /91	@98
Guayaquil, strip	45 ^a /46	77 ^a /78	@85
Nicaragua, scrap	50 ^a /60	87 ^a /88	@97
Panama	44 ^a /45	67 ^a /68	@88
Mexican, scrap	60 ^a /61	89 ^a /90	@98
Mexican, slab	42 ^a /43	65 ^a /66	@85
Mangabeira, sheet	44 ^a /45	61 ^a /62	@60
Guayule	25 ^a /26	34 ^a /35	@40

EAST INDIAN.	Aug. 1, '08.	July 1, '09.	July 30.
Assam	72 ^a /73	95 ^a /96	95 ^a /96
Pontianak .....	.....	43 ^a /44	@434
Borneo	26 ^a /27	35 ^a /45	@40

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	8\$700	Upriver, fine	10\$600
Islands, coarse	3\$200	Upriver, coarse	8\$000
		Exchange	15 5/32d.

Latest Manãos advices:

Upriver, fine	11\$000	Exchange	15 5/32d.
Upriver, coarse	6\$500		

NEW YORK RUBBER PRICES FOR JUNE (NEW RUBBER).

	1909.	1908.	1907.
Upriver, fine	1.35@1.51	.88@.94	1.08@1.12
Upriver, coarse .....	.98@1.05	.62@.65	.86@.88
Islands, fine	1.31@1.42	.84@.89	1.04@1.10
Islands, coarse .....	.67@.76	.41@.46	.61@.63
Cametá .....	.78@.82	.53@.56	.70@.71

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.		Total	Total	Total
	Fine and Medium.	Coarse.	1909.	1908.	1907.
Stocks, May 31.....tons	60	41	101	370	300
Arrivals, June	887	662	1549	1324	726
Aggregating	947	703	1650	1004	1095
Deliveries, June.....	744	514	1258	1347	792
Stocks, June 30....	203	180	382	347	303

	1909.	1908.	1907.
World's visible supply, June 30..... <i>tons</i>	1,490	2,854	2,223
Pará receipts, July 1 to June 30.....	30,080	29,040	31,530
Pará receipts of Caucho, same dates.....	8,000	6,950	6,340
Afloat from Pará to United States, June 30	88	571	240
Afloat from Pará to Europe, June 30....	445	528	560

World's visible supply, June 30.....tons	1,490	2,854	2,223
Pará receipts, July 1 to June 30.....	30,080	29,640	31,530
Pará receipts of Caucho, same dates.....	8,000	6,950	6,340
Afloat from Pará to United States, June 30	88	371	240
Afloat from Pará to Europe, June 30....	445	528	560

New York.

IN regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street, New York), advises as follows: "There has been practically no change in the commercial paper situation during July, the best rubber names bring taken at 4¼@4¾ per cent., and those not so well known at 5@5½ per cent."

African Rubbers.

NEW YORK STOCKS (IN TONS).

January 1, 1908.....	156	November 1, 1908.....	134
February 1.....	224	December 1.....	170
March 1.....	123	January 1, 1909.....	150
April 1.....	201	February 1.....	157
May 1.....	165	March 1.....	200
June 1.....	440	April 1.....	178
July 1.....	334	May 1.....	268
August 1.....	145	June 1.....	156
September 1.....	133	July 1.....	268
October 1.....	134		

Liverpool.

WILLIAM WRIGHT & Co. report [July 1]:

Fine Pará.—With a good demand from the trade here, supplemented by a continuance of demand from America (American shipments from here are about 425 tons), a strong advance in prices resulted; in fact, a new record was created, Upriver fine touching 68. 3d. [= \$1.48] per pound, highest previous price being 58. 9½d. [= \$1.41]. This advance was doubtless due partly to speculation, but mainly by trade requirements, manufacturers on this side having run themselves bare of stock. As far as can be seen at present the American demand is likely to continue, and in view of small receipts during the next few months, a further advance in value is quite probable. For delivery a good business done, and although a considerable discount on spot values has been offered, there have been ready buyers at the reduction in price right up to the end of the year, which seems to indicate a new high level of prices.

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for car-load lots, per pound—show an advance since last month:

Old rubber boots and shoes—domestic.....	11	@11½
Old rubber boots and shoes—foreign.....	10	@10¾
Pneumatic bicycle tires	6¾	@ 6½
Automobile tires	6¾	@ 6½
Solid rubber wagon and carriage tires.....	8½	@ 9
White trimmed rubber	9½	@10
Heavy black rubber	6	@ 6¼
Air brake hose	4¼	@ 4½
Garden hose	2¾	@ 2½
Fire and large hose	3½	@ 3¾
Matting	1¾	@ 1½

SEND for a free copy of the Index to the new edition of Mr. Pearson's "Crude Rubber and Compounding Ingredients," just out, at THE INDIA RUBBER WORLD office.

Antwerp.

RUBBER STATISTICS FOR JUNE.

DETAILS.	1909.	1908.	1907.	1906.	1905.
Stocks, May 31.....	689,338	771,577	752,914	725,251	347,104
Arrivals in June.....	430,074	461,093	296,779	208,358	549,011
Congo sorts.....	273,079	397,745	250,350	203,502	453,418
Other sorts.....	156,995	63,318	46,429	94,790	87,493
Aggregating.....	1,110,312	1,232,640	1,049,693	1,023,609	888,015
Sales in June.....	642,892	547,774	377,900	494,775	305,029
Stocks, June 30.....	476,420	684,866	671,793	618,834	582,986
Arrivals since Jan. 1.....	2,403,504	2,605,825	2,578,734	3,026,806	2,761,199
Congo sorts.....	1,710,209	2,257,536	2,194,578	2,313,641	2,211,007
Other sorts.....	687,295	348,289	384,156	713,165	550,132
Sales since Jan. 1.....	2,522,819	2,027,853	2,565,125	3,143,159	2,719,574

RUBBER ARRIVALS FROM THE CONGO.

JUNE 14.—By the steamer *Bruxellesville*:

Bunge & Co.	(Société Générale Africaine) kilos	141,000
do	Comptoir Commercial Congolais	27,800
do .....	.....(Société Abir)	1,000
do .....	.....(Société Anversoise)	3,100
do .....	.....(Chemins de fer Grands Lacs)	10,300
do .....	.....(Umani)	300
Société Coloniale Anversoise.....	(Belge du Haut Congo)	21,500
do .....	.....(Cie. du Lomami)	5,450
do .....	.....(Société Ikelemba)	300
do .....	.....(Sul. Cameroun)	5,400
do .....	.....	400
L. & W. Van de Velde.....	.....(Cie. du Kasai)	75,000
Charles Dethier.....	.....(American Congo Co.)	2,000

RUBBER ARRIVALS FROM THE CONGO.

JULY 5.—By the steamer *Albertville*:

Bunge & Co.	(Société Générale Africaine) kilos	132,000
do .....	.....(Comité Spécial Katanga)	6,500
do .....	.....(Comptoir Commercial Congolais)	30,000
do .....	.....(Société Abir)	10,000
do .....	.....(Cie. du Kasai)	72,500
do .....	.....(Chemins de fer Grands Lacs)	4,200

PARA RUBBER VIA EUROPE.

POUNDS.

JUNE 24.—By the <i>Grenada</i> =Bolivia:	
Genl. Expt. Com. Co. (Fine).....	36,000
do.....	(Coarse) 26,000
America Trading Co. (Fine).....	5,500
do.....	(Coarse) 2,500
JUNE 26.—By the <i>Augusta Victoria</i> =Hamburg:	
George A. Alden & Co. (Coarse).....	7,000
JUNE 28.—By the <i>Celtic</i> =Liverpool:	
New York Commercial Co. (Fine)....	22,500
JULY 1.—By the <i>Caronia</i> =Liverpool:	
Poel & Arnold (Fine).....	125,000
JULY 1.—By the <i>Thorsa</i> =Ciudad Bolivar:	
Genl. Expt. Trad. Co. (Fine).....	30,000
do.....	(Coarse) 18,000
American Trading Co. (Fine).....	15,000
do.....	(Coarse) 15,000
R. Fabien & Co.	3,500
JULY 2.—By the <i>Pennsylvania</i> =Hamburg:	
A. T. Morse & Co. (Fine).....	33,500
Rubber Trading Co. (Fine).....	11,000
JULY 3.—By the <i>Lucania</i> =Liverpool:	
N. Y. Com. Co. (Fine).....	5,000
JULY 12.—By the <i>Baltic</i> =Liverpool:	
N. Y. Commercial Co. (Fine).....	13,500
JULY 14.—By the <i>Prinz Wilhelm</i> =Mollendo:	
W. R. Grace & Co. (Concho).....	19,000
JULY 14.—By the <i>Carmania</i> =Liverpool:	
Poel & Arnold (Fine).....	50,000
JULY 17.—By the <i>Campama</i> =Liverpool:	
Livesey & Co. (Concho).....	5,000

OTHER NEW YORK ARRIVALS.

CENTRALS.

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

POUNDS.

JUNE 23.—By the <i>El Valle</i> =Galveston:	
Continental-Mexican Rubber Co.....	*110,000
JUNE 24.—By the <i>Magdalena</i> =Colon:	
Seanz & Co.	5,000
G. Amsinck & Co.	3,000
Isaac Brandon & Bros.	2,000
Jose Julia & Co.	1,000
JUNE 25.—By the <i>Mexico</i> =Frontera:	
Harburg & Stack	7,000
E. Steiger & Co.	3,000

R. Fahein & Co.	3,000
General Export and Com. Co.	2,500
JUNE 25.—By the <i>El Mar</i> =Galveston:	
Ed Boehringer	*33,500
JUNE 26.—By the <i>Advance</i> =Colon:	
J. S. Sambrade	2,000
Cabell & Blanche	1,500
Henry Mann & Co.	1,000
JUNE 28.—By the <i>Minnetonka</i> =London:	
W. L. Geough Co.	11,500
JUNE 28.—By the <i>El Norte</i> =Galveston:	
Continental-Mexican Rubber Co.....	*150,000
JUNE 28.—By the <i>Antilles</i> =New Orleans:	
A. T. Morse & Co.	10,000
G. Amsinck & Co.	1,000
Egger & Heinlein	1,500
JUNE 28.—By the <i>Caronia</i> =Liverpool:	
Robinson & Co.	11,500
JUNE 30.—By the <i>Allianca</i> =Colon:	
L. Johnson & Co.	3,500
G. Amsinck & Co.	3,500
A. Rosenthal's Sons	3,000
Roldan & Van Sickle	2,500
Demarest Bros.	2,500
Pablo Calvert Co.	2,000
Hirzel, Feltman & Co.	1,500
J. S. Sambrade	1,500
Elias & Abdo	1,500
Mecke & Co.	1,000
Henry Mann	1,000
Isaac Brandon & Bros.	1,000
JULY 1.—By the <i>Yumari</i> =Tampico:	
Ed Maurer	*65,000
New York Com. Co.	*65,000
Continental-Mexican Rub. Co.	*65,000
Poel & Arnold	*45,000
Rensch & Helde	*45,000
JULY 1.—By the <i>Caronia</i> =Liverpool:	
Poel & Arnold	7,000
JULY 2.—By the <i>Antilla</i> =Tampico:	
Ed Maurer	*110,000
New York Commercial Co.	*55,000
JULY 2.—By the <i>Prinz Frederick</i> =Savanilla:	
Maitland, Coppell & Co.	2,500
A. Held	2,500
JULY 3.—By the <i>Monterey</i> =Frontera:	
Harburger & Stack	6,500
E. Steiger & Co.	1,500
Graham-Hinkley Co.	1,000
H. Marquardt & Co.	1,000
Interior Ports	3,000

Société Coloniale Anversoise.....	(Belge du Haut Congo)	6,500
do .....	.....(Cie. du Lomami)	9,300
do .....	.....	8,300
do .....	.....	12,100
M. S. Cols.....	.....	800
Cassart & Henrion.....	.....	1,300
L. & W. Van de Velde.....	.....	2,000
		295,500

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

JUNE 24.—By the steamer *Crispin*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co....	58,700	40,100	41,000	68,200	208,000
A. T. Morse & Co.....	44,400	6,700	45,000	.....	96,100
Hagemeyer & Brunn.....	17,400	.....	65,100	.....	82,500
Poel & Arnold.....	10,600	1,700	36,800	2,100	51,200
Edmund Reeks & Co.....	5,000	.....	6,000	.....	11,000
General Rubber Co.....	3,600	.....	2,000	.....	5,600
Total	139,700	48,500	195,900	70,300	454,400

JULY 6.—By the steamer *Cuthbert*, from Manáos and Pará:

New York Commercial Co....	23,100	12,900	25,900	94,800	156,700
C. P. dos Santos.....	15,700	3,400	9,600	21,000	49,700
A. T. Morse & Co.....	23,900	.....	17,200	.....	41,100
Hagemeyer & Brunn.....	8,600	300	28,000	.....	37,800
Poel & Arnold.....	17,700	6,900	4,700	600	29,900
General Rubber Co.....	2,100	700	700	.....	3,500
G. Amsinck & Co.....	.....	.....	.....	3,700	3,700
Total	91,100	24,200	87,000	120,100	322,400

JULY 14.—By the steamer *Maranhense*, from Manáos and Pará:

Poel & Arnold.....	87,000	4,300	20,500	2,300	114,100
A. T. Morse & Co.....	27,800	2,200	52,800	.....	82,800
Hagemeyer & Brunn.....	29,300	700	52,800	.....	82,800
New York Commercial Co....	12,800	12,300	24,500	700	50,300
Edmund Reeks & Co.....	3,000	300	17,200	.....	21,100
General Rubber Co.....	3,300	300	7,200	.....	10,800
Total	163,800	20,100	175,000	3,000	361,900

[NOTE.—The steamer *Justin*, from Pará, with about 200 tons of rubber, was due at New York on July 28.]JULY 6.—By the *Verdi*=Bahia:

J. H. Rossbach Bros.	20,000
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JULY 6.—By the *Colon*=Colon:

Piza, Nephews & Co.....	7,000
Isaac Brandon & Bros.	6,000
G. Amsinck & Co.	2,000
Hy. Mann & Co.	2,000
Roldan & Van Sickle	2,000
Demarest Bros. Co.	1,000
	20,000

JULY 7.—By the *El Dia*=Galveston:

Ed Boehringer	*45,000
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JULY 7.—By the *Carib II*=Truxillo:

Eggers & Heinlein	5,500
H. W. Peabody & Co.	1,000
	6,500

JULY 7.—By the *Comus*=New Orleans:

A. T. Morse & Co.	2,500
A. N. Rotholz	1,500
L. Stern & Co.	1,500
Manhattan Rub. Mfg. Co. ..	2,000
	7,500

JULY 12.—By the *Cienfuegos*=Tampico:

Ed Maurer	*100,000
Poel & Arnold	*80,000
N. Y. Commercial Co.	*35,000
	*215,000

JULY 14.—By the *Prinz Wilhelm*=Colon:

A. Rosenthal's Sons	4,000
Jose Julia & Co.	4,000
Isaac Brandon & Bros.	2,000
Pablo, Calvet Co.	1,500
Henry Mann & Co.	1,500
Elmenhorst & Co.	1,500
Suzarte & Whitney	1,000
	15,500

JULY 17.—By the *Morro Castle*=Frontera:

Harburger & Stack	10,000
E. N. Tibbals & Co.	1,000
Mexican Products Co.	1,000
H. Marquardt & Co.	1,000
	13,000

JULY 19.—By the *Antilles*=New Orleans:

Eggers & Heinlein	2,500
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JULY 19.—By the *Cameons*=Bahia:

Poel & Arnold	56,000
A. Hirsch & Co.	45,000
New York Commercial Co....	25,000
J. H. Rossbach & Bros.	27,000
	153,000

JULY 19.—By the *Advance*=Colon:

G. Amsinck & Co.	5,500
Hirzel, Feltman & Co.	5,000
J. S. Sambrade	3,500
Pablo, Calvet Co.	1,500
Wessels, Kulenkamp Co.	1,500
Mecke & Co.	1,000

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HYDRO-CARBON

way of causing them to melt and lose their original shape, though the test lasted three summers. With the temperature at 4° F. the material has practically the same degree of flexibility as in midsummer. It works best in compounding on red hot mill rolls, not sticking as mixed or blended Hydro-carbons do, but instead is absorbed readily by the compound; its use tends to decrease the time necessary to mill a batch, in addition to which it is rich in hydrogen and adds that element to a shoddy which is necessary to insure perfect revulcanization. It is a direct aid to stocks run through a tubing machine and assists in calendering. Finished goods of which it is a part feel more "rubbery" and have longer life than goods made without it.

"Pretty near ideal," you say. Yes, but our MALTHA Hydro-carbon is doing this for some of the largest rubber manufacturers in this country every day. May we not send you a free working sample to try out and prove it for yourself? Write to-day.

AMERICAN WAX CO., - Boston, Mass., U. S. A.

CHARLES T. WILSON MEXICAN (Guayule) RUBBER

I invite inquiries from manufacturers on this rubber. Being the direct representative of large producers, I am in position to quote on various qualities for immediate and future delivery.

Telegraphic Address,
"CRUDERUB"

Office,

46 Cortlandt Street,

NEW YORK CITY

GUAYULE


Made by mechanical process only, of strictly fresh shrub.

No chemicals used.



PARRA

The recognized Standard, practically clean, containing less resin and having greater tensile strength than any other Guayule.



DURANGO

Prepared from high grade "Parra" Guayule, guaranteed uniform, washed and dried, ready for use. Vulcanizes easily without special compounding.

CONTRACTS MADE FOR REGULAR WEEKLY
OR MONTHLY DELIVERIES

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97 Water St., NEW YORK

Sole Representative of the MADERO interests in Mexico,

Largest Producers of Guayule Rubber, Operating Nine Factories.

American Trading Co.	1,000
Henry Mann & Co.	1,000
Demarest Bros. Co.	1,000
L. Johnson & Co.	1,000

JULY 20.—By the *El Alba*—Matanzas:

Roe, Gallego & Co.	3,500
Mellnick & Harms.	2,500

JULY 21.—By the *El Alba*—Greytown:

G. Amsinck & Co.	5,500
Suzette & Winters.	2,000
United Fruit Co.	1,000
Brandon & Ross.	2,000

JULY 22.—By the *El Alba*—Galveston:

Continental Mercantile Co.	14,000
---------------------------------	--------

JULY 23.—By the *El Alba*—Colon:

L. Johnson & Co.	1,500
Henry Mann & Co.	1,000
G. Amsinck & Co.	1,000
Wessels, Kuhn & Co.	1,000

JULY 23.—By the *Hugin*—Tampico:

El Maritimo Co.	14,000
Continental Mercantile Co.	35,000

JULY 24.—By the *El Alba*—Fronten:

Harburger & Stark.	4,500
E. Steiger & Co.	3,500
A. Klipstein & Co.	3,000
Koblan & Van Sickle.	2,000
H. Marquardt & Co.	1,500

AFRICAN.

POUNDS.

JUNE 24.—By the *El Alba*—Hamburg:

Poel & Arnold.	15,000
A. T. Morse & Co.	22,500
George A. Alden & Co.	15,000
Rubber Trading Co.	4,500

JUNE 28.—By the *El Alba*—Lisbon:

General Rubber Co.	56,000
Poel & Arnold.	24,500

JUNE 28.—By the *El Alba*—Liverpool:

Livesey & Co.	6,500
George A. Alden & Co.	2,500

JUNE 26.—By the *El Alba*—Hamburg:

A. T. Morse & Co.	22,500
George A. Alden & Co.	8,000
General Rubber Co.	7,000
Rubber Trading Co.	4,500

JUNE 30.—By the *El Alba*—Liverpool:

Poel & Arnold.	67,000
Rubber Trading Co.	9,000
H. A. Gould Co.	9,000
Livesey & Co.	7,000

JULY 2.—By the *El Alba*—Hamburg:

A. T. Morse & Co.	50,000
General Rubber Co.	13,500
George A. Alden & Co.	8,000
W. L. Gough & Co.	2,000

JULY 3.—By the *El Alba*—Havre:

George A. Alden & Co.	22,500
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JULY 6.—By the *Cedric*—Liverpool:

Livesey & Co.	7,000
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JULY 6.—By the *El Alba*—Antwerp:

Poel & Arnold.	11,000
A. T. Morse & Co.	7,000
W. L. Gough & Co.	5,000
W. H. Stiles & Co.	3,500

JULY 8.—By the *El Alba*—Hamburg:

Poel & Arnold.	50,000
George A. Alden & Co.	1,500
A. T. Morse & Co.	11,000
W. L. Gough & Co.	8,000

JULY 11.—By the *El Alba*—Havre:

George A. Alden & Co.	4,500
Joseph Cantor.	4,500

JULY 12.—By the *El Alba*—Liverpool:

George A. Alden & Co.	26,000
----------------------------	--------

JULY 12.—By the *El Alba*—Hamburg:

A. T. Morse & Co.	9,000
George A. Alden & Co.	7,000

JULY 12.—By the *El Alba*—Antwerp:

A. T. Morse & Co.	14,000
Poel & Arnold.	17,000
Robinson & Co.	11,500
W. H. Stiles & Co.	5,000

JULY 14.—By the *El Alba*—Liverpool:

Poel & Arnold.	50,000
Robinson & Co.	18,000
H. A. Gould Co.	6,000

JULY 17.—By the *El Alba*—Hamburg:

Rubber Trading Co.	9,000
-------------------------	-------

JULY 17.—By the *El Alba*—Liverpool:

Poel & Arnold.	20,000
W. L. Gough & Co.	11,000
A. T. Morse & Co.	2,500
Livesey & Co.	2,000

JULY 17.—By the *El Alba*—Bordeaux:

George A. Alden & Co.	35,000
General Rubber Co.	7,000
Livesey & Co.	9,000

JULY 19.—By the *El Alba*—Antwerp:

George A. Alden & Co.	36,000
Rubber Trading Co.	22,500
H. A. Gould Co.	15,000

JULY 22.—By the *El Alba*—London:

Poel & Arnold.	13,500
---------------------	--------

EAST INDIAN.

[*Denotes plantation rubber.]

POUNDS.

JUNE 28.—By the *El Alba*—London:

Poel & Arnold.	33,000
A. T. Morse & Co.	11,500
Poel & Arnold.	17,000

JUNE 28.—By the *El Alba*—Colombo:

A. T. Morse & Co.	23,000
New York Commercial Co.	9,000

JUNE 28.—By the *El Alba*—Singapore:

W. L. Gough & Co.	5,500
New York Commercial Co.	4,500

JULY 1.—By the *El Alba*—Colombo:

A. T. Morse & Co.	11,500
------------------------	--------

JULY 6.—By the *El Alba*—London:

New York Commercial Co.	30,000
A. T. Morse & Co.	11,500
Poel & Arnold.	5,500

JULY 6.—By the *El Alba*—London:

Livesey & Co.	9,000
General Rubber Co.	9,000

JULY 8.—By the *El Alba*—London:

A. T. Morse & Co.	11,500
------------------------	--------

JULY 12.—By the *El Alba*—London:

New York Commercial Co.	33,000
Poel & Arnold.	13,500

JULY 13.—By the *El Alba*—London:

General Rubber Co.	22,500
-------------------------	--------

JULY 13.—By the *El Alba*—London:

New York Commercial Co.	18,000
Poel & Arnold.	3,000

JULY 17.—By the *El Alba*—Colombo:

A. T. Morse & Co.	15,000
------------------------	--------

JULY 19.—By the *El Alba*—Antwerp:

George A. Alden & Co.	10,500
----------------------------	--------

JULY 19.—By the *El Alba*—London:

Robinson & Co.	4,500
Poel & Arnold.	2,500

JULY 22.—By the *El Alba*—London:

A. T. Morse & Co.	11,500
Poel & Arnold.	2,000

GUTTA-JELUTONG.

JUNE 28.—By the *El Alba*—Singapore:

Heabler & Co.	22,500
W. L. Gough & Co.	150,000
George A. Alden & Co.	115,000

JULY 2.—By the *El Alba*—Singapore:

Heabler & Co.	25,000
George A. Alden & Co.	260,000
W. L. Gough & Co.	700,000
Poel & Arnold.	45,000

GUTTA PERCHA.

POUNDS.

JULY 2.—By the *El Alba*—Singapore:

George A. Alden & Co.	45,000
Heabler & Co.	22,000

MALAYA.

JUNE 29.—By the *El Alba*—Demarara:

Gillespie & Co.	7,000
----------------------	-------

JULY 7.—By the *El Alba*—Trinidad:

Frame & Co.	5,000
------------------	-------

JULY 13.—By the *El Alba*—Demarara:

E. F. Darragh & Co.	4,000
--------------------------	-------

JULY 20.—By the *El Alba*—Demarara:

Middleton & Co.	3,500
Frame & Co.	2,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JUNE.

Imports:	Pounds.	Value.
India rubber.	7,554,586	\$6,480,620
Balata.	39,544	15,448
Gutta-percha.	11,555	5,918
Gutta-jelutong (Pontiak).	1,044,420	13,076
Total.	8,639,106	\$6,535,082
Exports:	Pounds.	Value.
India rubber.	158,638	\$114,152
Reclaimed rubber.	66,592	7,662
Rubber scrap imported.	1,548,081	\$120,157

BOSTON ARRIVALS.

POUNDS.

JUNE 8.—By the *El Alba*—Hamburg:

George A. Alden & Co. African.	6,500
-------------------------------------	-------

JUNE 10.—By the *El Alba*—Liverpool:

Rubber Trading Co. African.	10,200
----------------------------------	--------

JUNE 22.—By the *El Alba*—Singapore:

George A. Alden & Co. East Indian.	3,000
George A. Alden & Co. Gutta-jelutong.	75,000

W. L. Gough & Co.—Gutta-jelutong.

State Rubber Co.—Gutta-jelutong.	440,000
State Rubber Co.—Gutta-jelutong.	200,000

JUNE 28.—By the *El Alba*—Hamburg:

George A. Alden & Co.—African.	10,200
Poel & Arnold—African.	1,200

PARA EXPORTS OF INDIA RUBBER, MAY, 1909 (IN KILOGRAMS).

NEW YORK.

EXPORTERS.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.
Gruner & Co.	33,677	28,867	49,113	935	142,592
E. Pinto Alves & Co.	27,200	106,390	.....	.....	133,790
J. Marques & Co.	26,750	4,040	79,550	.....	101,340
Alberty H. Alden.	16,143	4,983	17,032	40,632	79,390
Pires, Teixeira & Co.	10,880	.....	32,340	43,220	86,440
De Lagotellerie & Co.	20,782	4,554	5,923	10,476	41,738
R. O. Ahlers & Co.	6,863	.....	.....	6,863	13,726
R. Suarez & Co.	25	5	1,734	.....	1,764
Scholz, Hartig & Co.	22,938	4,152	4,258	.....	31,048
Gordon & Co.	2,666	308	20,991	.....	20,993
Macanaria, direct. ....	.....	.....	.....	.....	1,598
Mamaos, direct.	136,941	5,245	7,178	132,336	395,042
Liquitos, direct. ....	.....	.....	.....	.....	1,643
Total, June.	334,555	98,966	388,849	184,382	1,006,752
Total, May.	489,751	123,476	407,190	148,686	1,168,503
Total, April.	707,343	125,004	619,433	413,943	1,865,723
Total, March.	786,778	134,535	486,099	523,316	1,930,728
Total, February.	1,188,074	218,475	598,018	483,843	2,488,410
Total, January.	1,036,998	218,053	639,306	324,149	2,218,506
Total, six months.	4,347,599	919,109	3,138,895	2,108,317	10,709,220
July to December.	4,337,943	840,854	2,956,069	399,235	8,434,071
Total, crop year.	8,780,842	1,759,963	6,094,964	2,507,552	19,143,291

EUROPE.

Fine.	Medium.	Coarse.	Caucho.	TOTAL.	TOTAL.
37,124	5,098	37,800	7,622	92,644	235,236
45,560	510	46,530	15,510	108,110	241,000
32,980	5,610	73,590	5,940	118,120	219,460
30,980	2,498	26,011	24,069	83,558	162,948
23,460	.....	27,390	.....	50,850	94,070
340	170	660	.....	1,170	4,208
.....	.....	.....	35,110	35,110	41,973
26,195	.....	2,921	2,921	31,498	33,262
.....	.....	.....	855	855	31,048
1,598	.....	1,045	818	2,931	30,820
91,763	20,095	27,597	159,872	300,229	605,262
1,643	342	167	1,215	132,531	1,32,531
291,015	38,223	244,511	383,255	957,604	1,964,356
536,701	51,183	139,577	808,213	1,535,976	2,704,477
1,044,128	188,500	245,423	876,534	2,354,585	4,250,900
1,044,496	193,071	378,918	846,180	2,462,665	4,393,393
1,869,658	202,450	405,848	815,827	2,093,773	4,582,183
1,521,113	154,491	395,331	775,642	2,816,507	5,935,013
297,711	828,130	1,779,038	1,395,031	4,221,110	22,930,330
290,004	468,282	999,087	1,272,756	6,041,020	15,375,130
297,715	1,296,412	2,689,605	5,578,407	19,102,139	38,395,419



Vol. 40

AUGUST 1, 1909.

No. 5.

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Rubber Receipts at Monas.

DURING May and eleven months of the crop season, for three years [courtesy of Messrs. Scholz & Co.]:

FROM—	1909.	1908.	1907.	1909-8.	1908-7.	1906-7.
Rio Purus-Acre..... tons	218	295	375	8,629	8,856	8,255
Rio Madeira.....	138	54	47	3,073	2,952	3,320
Rio Jurá.....	251	266	196	4,217	4,196	4,829
Rio Javary-Iquitos.....	44	19	41	2,458	2,506	2,852
Rio Solimoes.....	27	27	23	1,007	1,134	926
Rio Negro.....	28	55	12	583	596	615
Total.....	706	707	694	10,067	20,240	20,797
Cauchó.....	586	388	549	6,406	5,827	5,137
Total.....	1,292	1,095	1,243	26,373	26,067	25,934

London.

JULY 9.—The highest prices ever paid for crude rubber at the auctions here were realized to-day for extra good plantation sorts. The offerings included about 10 tons Ceylon and 65 tons Malaya. All the better descriptions were strongly competed for, at an advance of 2d. to 5d. over the preceding sale.

To-Day's QUOTATIONS.

Sheet and Biscuits:			
Fine smoked sheet.....	7s.	2d.	@ 7s. 2½d.
Good to fine sheet.....	6s.	10½d.	@ 7s. 0½d.
Good to fine biscuits.....	6s.	10½d.	@ 7s. 1d.
Crepe:			
Very pale.....	6s.	11½d.	@ 7s. 1d.
Medium and palish.....	6s.	3d.	@ 6s. 11d.
Dark and brown.....	3s.	8d.	@ 6s. 2d.
Unwashed Scrap:			
Medium to fine.....	5s.	3d.	@ 5s. 5¾d.
Dark and low.....	3s.	10d.	@ 4s. 10d.

Sales included 38 cases smoked sheet from Highlands estate, up to 7s. 2½d. [= \$1.7478], and 97 cases crepe, up to 6s. 11¾d. [= \$1.69¾]; 84 cases Malacca crepe, up to 6s. 11¾d.; 5 cases Warriapolla crepe at 7s. 1d. [= \$1.723]. The price of hard fine Pará to-day is 6s. 6½d. [= \$1.59½]. The average realized for plantation of all grades was 6s. 4½d. [= \$1.543], against 3s. 10½d. [= 94½ cents] at the corresponding sale last year. The record price was 6s. 9¾d. [= \$1.65¾],—paid for Malaya crepe in May, 1905—until the auction of June 25, when 7s. [= \$1.70¼] was paid for a lot of smoked sheet from Vallambrosa estate.

MEXICAN PLANTATION RUBBER.

Lewis & Peat report the sale at to-day's auction of 40 cases white pressed *Castilloa* sheet, from La Zacualpa estate, in Mexico, at 5s. 3¼d. [= \$1.282]. The quantity was approximately 2 tons.

JULY 16.—Plantation has been in good demand, and dearer. Small sales of sheet at 7s. 5d., value now 7s. 6d. and of crepe up to 7s. 8d. [= \$1.86] for fine quality. Business has been done in fair average sheets at 6s. [= \$1.46] for 1910 crops. The price of hard fine Pará has jumped up about 9d. per pound within a week. A very considerable business has been done, including spot and July delivery at 6s. 6d. up to 7s. 3d. [= \$1.76]. Soft fine sold up to 6s. 6d. [= \$1.58.] No auctions this week.

Plantation Rubber.

EXPORTS FROM THE FAR EAST.

From Ceylon—January 1 to June 7:

1909.....	pounds.	421,766
1908.....		277,012
1907.....		181,142

From Singapore—January 1 to June 2:

1909.....	pounds.	1,079,664
1908.....		824,966
1907.....		546,435

From Penang—January 1 to April 30:

1909.....	pounds.	1,223,361
1908.....		439,010
1907.....		56,961

PLANTATION YIELDS (IN POUNDS).

	1908.	1909.
Bukit Rajah Rubber Co.:		
June.....		17,592
Three months to June 30.....	28,728	54,438
Anglo-Malay Rubber Co.:		
June.....	28,431	40,744
Six months to June 30.....	154,791	224,829
Damansara (Selangor) Rubber Co.:		
June.....		15,782
Six months to June 30.....	53,910	73,790
Pataling Rubber Estates Syndicate:		
June.....	[a 8,092]	11,749
Six months to June 30.....	[a 33,140]	61,148
Consolidated Malay Rubber Estates:		
June.....	8,638	17,333
Six months to June 30.....	39,381	85,118
Vallambrosa Rubber Co.:		
June.....	16,321	24,000
Three months ending June 30.....	51,047	73,198

[a = Wet rubber.]

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 MARK IS STAMPED ON
 THE INSIDE.



INDIA RUBBER WORLD

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GUTTA-PERCHA
 DIORPSES GUTTA

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SEPTEMBER 1, 1909.

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OUR TWENTIETH ANNIVERSARY.

WITH this issue THE INDIA RUBBER WORLD completes its twentieth year of continuous publication, without change of name or of editorial management. So recent has been the development of trade journalism, as the term is now understood in its best sense, that few journals in the country devoted to special interests have existed under like conditions for so many years.

Twenty years! One-fifth of a life that attains to one hundred! Or, more accurately, one-third of a centenarian's active life—the first and last score being but preparatory, one for life, the other for death. In some cycles twenty years contain but little of accomplishment, but not in this age. Contrast the happenings in any period of 6000 working days of Methuselah's time with the days that elapsed between 1889 and 1909! What a crowding of events! What changes political, geographical, and, above all, industrial! And what of the rubber trade? The story of its growth; of its expansion in every conceivable di-

rection; of its spectacular successes—all this would fill volumes.

At once in this sort of retrospect memory visualizes the high lights in the panorama of events. In bold relief as makers of history, as organizers each with his own strongly marked personality, certain figures instantly project themselves into memory's foreground. Elisha Converse, reserved, thoughtful, quietly capable; Joseph Banigan, impulsive, sagacious, affable; Evans, fiery, alert, aggressive—and scores of others who crowd to memory.

At the beginning of this twenty years Dr. Goodrich, Thomas Mayall and Christopher Meyer had but just passed to the great beyond. During its brief term the trade mourned the loss of such men as N. C. Mitchell, George A. Alden, E. H. Clapp, Wheeler Cable, Benjamin Taft, George F. Hodgman, Charles H. Dale, James Bennett Forsyth, and others whose names were synonymous with the growth and permanence of the trade. Their mantles have fallen upon younger men no less capable and to whom history will doubtless accord just as much in the way of trade accomplishment. The pioneer days perhaps are over, and the era of industrial coöperation and consolidation which had its beginnings since 1889 appears to be at hand.

A few years back there was no Lead trust, no Whiting trust, no Rubber trust; now they and hundreds of others are here, and are the natural outgrowth of our great industrial expansion.

Twenty years ago rubber planting was a joke. "Why not cultivate coal?" scoffed one critic. "About as practical as the romances of Jules Verne," affirmed another. Yet to-day the rubber trade of the world not only believes in rubber cultivation, but has invested millions of dollars in it and very profitably.

The laboratory as an adjunct to the rubber mill was lightly thought of by the practical manufacturer but two decades ago. To-day the rubber chemist is an integral part of nearly every successful rubber factory organization.

As far as machinery goes, washers, mixers, calendars, presses, and vulcanizers are still employed. They are heavier, to be sure, and speedier, and are supported by phalanxes of minor machines, but the old-time procedure remains unchanged. Few revolutionary processes can be recorded. By the use of the vacuum dryer, to be sure, rubber can be compounded the same day it is washed instead of months later, and

that is about the only change in processes that are generally applicable. Certain types of goods once extremely popular have entirely disappeared from the market—as, for example, the solarized gossamer. But other products promptly took their place, as did the showerproof or cravenetted garment. Of new applications of rubber that have grown to be special lines of manufacture of ever increasing magnitude there is the American golf ball and the pneumatic tire.

During a few years past the price of rubber has gone up higher than ever before, and after each rise has dropped lower than any one thought possible. There have been attempted corners that have brought disasters to the speculator. There have been a few valuable compounding ingredients added to the great variety already in use. There have been numbers of excellent plastics that have proved themselves of much value. And ever new and ever interesting there has been the semi annual discovery of synthetic rubber. As a barometer of rubber trade conditions this last item is infallible. More than ever before during the last twenty years has this discovery been made. As we go to press we learn that it has just appeared simultaneously in England and the United States and as an augury of present and continued trade prosperity it stands unrivaled.

In further commemoration of the twentieth anniversary of THE INDIA RUBBER WORLD an issue of the paper to appear shortly will be devoted to a review of the india-rubber and allied trades during the past two decades. This is designed to be an issue of unusual interest, embracing contributions from the best authorities in the trade.

RUBBER IN THE AIR.

THE fact that on the first day of the aviation contests at Rheims one of the contestants was fined for "reckless flying" may be regarded by many as of small moment, and by some as a mere joke. But really is this not an indication that aerial navigation has developed into one of the serious facts of modern life? What was the automobile before its use arrived at the dignity of recognition by the courts? The mere imposition of fines against motorists for legal overspeeding was legal recognition that the theretofore unheard of automobile "had arrived"; likewise the fining of aviators for breaches of the peace in the clouds—or above them—is an admission by the public authorities that men can fly, no matter how nonsensical such an idea may have seemed when the present generation were playing with hoops and tops.

Only a decade ago, when the first automobile parade in New York was organized, half the cars which ventured into a ten mile contest had to be drawn home with horses, and the best of the cars merely crept along. But now we see a flying machine doing 84 miles without stopping, at the rate of 42 miles an hour, and getting home without

aid. Men surely are flying nowadays, with such success as to justify the consideration of flying machines in connection with preparations for war. The use of the automobile in war also has been much considered, but the trouble has been that wars don't always happen often enough to test new inventions thoroughly before something newer turns up.

No doubt in the case of the theoretical invasion of Boston, in the American military maneuvers last month, the automobile and the motorcycle could have been used to marked advantage had the commanders of the forces been receptive to modern ideas. The fact that the automobile trucks actually in the campaign did not keep the food supplies near enough to the troops for use was no fault of the trucks; they had, owing to prearranged plans, to keep behind certain other units in the marching columns. But by the time the next maneuvers occur it may be that commanders with ideas more up to date will contrive to have aeroplanes carrying food high in the air to whatever point hungry soldiers may be in need. One excuse for certain failures in the Boston war game was that some supply ships were interrupted at sea. Could such an inconvenience happen with the use of air ships, free to go over land and sea alike?

True, it still is a question whether aviation has become "practical"; at any rate it already is of widespread interest as sport, and calls for just as much rubber under one heading as the other. What if a flying machine does fall now and then? Were not seven lives lost in the late motoring contests on the Indianapolis "speedway"? And are not vastly more people kicked to death by horses than ever suffer injury in motoring? It is conceivable that in a very few years the newspapers will cease to regard as a matter of interest the fall of a biplane from the clouds, with fatal results, and find novelty again in reporting such deadly accidents as the falling of truck drivers under horses' hoofs—something now so common in New York as not to attract attention. That is, horses will become so rare in cities that any excuse to mention one will be welcomed by the news gatherers.

It must be admitted that the flying machine is in the air. What is more, it is daily becoming more the custom for it to remain there, instead of falling into tree tops at inconvenient moments. THE INDIA RUBBER WORLD has preached the gospel of the automobile to the rubber trade; while continuing the same line of discourse, it feels impelled to call the minds of the trade to even higher things, such as have figured of late in the international exhibition of aerial vehicles at Frankfort-on-the-Main and the exhibitions of real flying at Rheims.

A LAST WORD ON THE TARIFF.

BUSINESS conditions in America, measured by every recognized standard, show an improvement over what has prevailed for a year or more past. In other words, business is approaching the normal American

condition—that of continual improvement, keeping pace with the constant growth of a population that has a buying capacity not equaled in any other country, in any age. It was a scare, not a “panic,” that happened less than two years ago. A few individuals having undue influence with a smaller number of banks which before were of good repute, used their power to private advantage and against the general good, with the result that some honest institutions were forced temporarily to close their doors. The effect upon the general financial public was not of fear for the future, or even of immediate distrust, but merely of caution. But this caution was so widespread and so ramified that many branches of trade felt it. For example, if steel manufacturers curtailed their output, the railways, having therefore less traffic, bought fewer supplies, and this meant smaller demands upon certain rubber factories, and the importation of crude rubber declined—with the result of lowering the quotations for rubber everywhere. The whole “financial depression” of 1907 may be summed up in few words—in so far as it may be considered apart from worldwide financial conditions—too much business had been attempted for the capital employed; some people had attempted to get rich “too quick.” The banking world called upon business men to call a halt, and for a while the United States rested. But there was no loss of real wealth, though there may have been a readjustment of ownership, due to the impatience of this class, or the want of preparedness of another class for any sudden and unexpected crisis. The net result is the lessening of certain bad features in banking—the vital center of the modern business world—and that people in industry and trade are profiting by lessons of caution.

The country is prosperous again. The country has been prosperous for a long time. This country cannot be otherwise than prosperous, with so many millions of honest and intelligent people working constantly to improve their condition—materially and morally. Would it not be a great blow to civilization if such concentrated effort by so many millions did not yield favorable results?

This is our introduction to a very few remarks on the new Tariff act which has been signed by the President of the United States since our last issue. We do not doubt that many millions of capital in this country have been less active during the special session of the Congress called in March to deal with the tariff. But the fact that business suddenly begins to improve is not due alone to any feature of the new law; the sudden renewal of activity only is coincident with other business features already pointed out in this article, encouraged slightly by the cessation of tariff “tinkering” at Washington.

In another department of THE INDIA RUBBER WORLD the relation of the new tariff, as compared with former schedules, to the rubber and allied industries, is dealt

with in some detail. We consider it our duty as purveyors of news to the rubber trade by common consent to print such information.

We wish to venture one concluding remark, however: The change of the color of the cover of this journal—say from blue to red—would as seriously affect the trade, one way or the other, as any change of tariff schedules that ever happened at the hands of the Congress at Washington. We hope, then, that the tariff will be forgotten soon, in the devotion of our rubber men to their usual business details.

N. B.—It is hard to ignore the opportunity to suggest how speedily the new tariff act was dealt with at Washington, as compared with proposed tariff changes or new revenue laws in some other countries.

THE BRITISH RUBBER FEVER.

O furor do plantio en Ceylao continúa na Sua febre ascensional. (The plantation frenzy in Ceylon continues with growing intensity.) *—L. Manna's newspaper.*

THE American word “boom” accurately describes the activity of European—and especially British—investors in subscribing to the capital of planting companies in the Far East since rubber reached the unprecedented \$2 mark. THE INDIA RUBBER WORLD already has chronicled the payment of dividends of rubber planting companies, in figures as high as 80 per cent. With “consols” at only $2\frac{1}{2}$ per cent., it is not surprising that company promoters should take advantage of the recent successes of some planting companies to part the British fool from his money with rubber as a lure. But every “boom” is followed by a “fizzle,” and it is to be feared that the latter term must be applied ere long to some of the recently floated undertakings in rubber planting.

THE INDIA RUBBER WORLD has a list of rubber culture companies registered in London during the month of July, which, while not complete, embraces twenty-four new corporations, with an aggregate nominal capitalization of £1,317,040 [= \$6,409,375]. Now this is a great deal of money, and there is reason to believe that a large part of it actually has been paid over. The new enterprises referred to are planned to do business in nine different countries and colonies; it appears immaterial to the investors where a new company proposes to operate, so long as rubber is mentioned in its prospectus. At the same time, so-called rubber planting companies have been brought out in several other European countries, and in Malaysia, Ceylon, and so on.

Now the large dividends of certain well-established rubber plantation companies in the Far East undoubtedly have been honestly earned. Most of the dividends reported up to date were declared and paid before the late extraordinary rise in the price of rubber; the latter, in fact, not only must be regarded as temporary, but it had nothing to do with the divi-

dends of 50 to 80 per cent. already referred to. But it is a mistake to suppose that, because certain plantations have been successful in producing rubber, every plantation—without regard to soil, altitude or sun exposure—will yield equally good results. There must be much land planted to rubber to-day which ultimately will be cleared off for another crop to which it is better adapted.

The chief reason for warning, however, relates to the question of profits. Take the Vallambrosa Rubber Co., Limited, for example. There is a company formed without the agency of the promoter. The owners of three plantations already in existence five years ago "pooled" their interests and formed a limited company, dividing among themselves a certain number of shares, and admitting a few personal friends, with a view to gaining a little needed additional working capital. The total share issue to date is £50,000 [= \$243,325]. The Vallambrosa company were able in their first year to market rubber, and during four years they have sold 694,078 pounds, for enough to return to the owners £95,000 in dividends, besides which they have the plantation. Being organized solely as a rubber planting company, all their energies have been devoted to this one object, and each year has shown progress in the direction of economy in the production of rubber, as well as an improvement in its quality.

A dividend of 80 per cent. sounds large; no doubt this year still larger dividends will be recorded. But it must be kept in mind that the only 80 per cent. company to date is practically a private company, capitalized by its actual owners on a conservative valuation of their properties before their yielding capacity was known or suspected. In other words, the "Vallambrosa" enterprise was capitalized practically at cost, by cautious Scotch business men dealing with their own property. How about the newest companies? Have the twenty-four July corporations, with an average capitalization of £54,877, any basic properties comparable with those which were at the bottom of the Vallambrosa enterprise? Some of them even have no rubber planted yet. Suppose that, some day, they should be equally successful in growing rubber, what assurance have the public—the owners of the new companies—of 80 per cent. dividends, or 10 per cent., or any dividends at all?

Account must be taken, in this connection, of the promoters—a class of gentlemen who do not appear to have figured in the Vallambrosa organization, but who must, wherever they do appear, be compensated before the public gets a sight of the profits. The Amazonian newspaper we quote is right in describing the English attitude toward rubber just now as a "fever." The same view evidently is taken by the London *Financial News*, which, while warmly commending rubber culture in general, says in a recent issue that

if rubber were to have a sharp fall, many of those who have been so eager to invest in planting companies "would madly rush into the market and sell their shares," without stopping to find out whether they were really worth holding.

THE DORMANT SYNTHETIC RUBBER GERM was sure to be started to life by the high price of rubber, but that it should break out in cold and conservative Boston almost passes belief. There it is, however, with all of its familiar symptoms—laboratory samples, resilient, elastic, plastic—company capitalized for millions—secrecy for fear the "trust" will gobble it—"no real rubber in it"—a profit of \$1,250 per ton—and, at last, a willingness to sell the secret "to let the other man have a chance." Just who is doing the fooling and who of the syndicate of respectable promoters who are fooled it is difficult to say. They certainly are showing rubber, but it is not synthetic. It is an extract from a resin carrying bastard gum, and a rather poor product at that.

THE NEW WASHING MACHINE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We much appreciate the article regarding our "Universal" washing machine, in your August issue (page 381), which will no doubt be very interesting to all concerned. However, we are sorry to see that you make mention that only a few of these machines have been sold, in view of the fact that we have now placed from 25 to 30, and seeing that they are able to treat so very much more material than the old type of washer this figure is most gratifying.

In the case of low-grade rubber the "Universal" will wash anything from 10 to 20 times the quantity in a given period, and therefore we think we are right in considering that we have sold the equivalent of 150 to 200 ordinary washers. We are keeping this latter figure low, as some of the machines have been sold for washing Pará and Pará kinds, and in such cases so large a saving in time is not shown, although the saving in labor and the superior quality of the washed rubber are very important points in favor of the machine.

WERNER, PFLEIDERER & PERKINS, LIMITED.

Petersborough, England, August 17, 1909.

ESCAPE FROM A SUNKEN "SUBMARINE."

NOT the least interesting feature of the daily news of the past month has been that relating to the experience of Ensign Kenneth Whiting, of the United States navy, in making his escape from a sunken "submarine" through a torpedo tube. The merit of his achievement is illustrated by the fact that these new engines of naval warfare are sometimes lost to control, and that the lives of those manning them are endangered. Ensign Whiting, in a boat not in danger, but which had been sunk to the bottom for the purpose of the experiment, made his exit through the torpedo tube to the surface in safety. If one man can do this, it is assumable that the members of the service generally can do the same, except that the last man in each boat may not be able to escape, for the reason that under existing conditions such a feat as that of Ensign Whiting would be possible only with the assistance of some one left behind to control the opening of the torpedo tube in some way to prevent the ingress of sea water. Naval authorities are now studying the possibility of modifying the construction of the submarines to an extent which will allow the last man on board to escape in case of disaster. But whether it is desirable for one man or the whole crew to escape, it is likely that some special costume for the purpose will be devised—more or less waterproof, and calling for the use of india-rubber.

India-Rubber and the New American Tariff.

THE President of the United States on August 5 attached his signature to the new Tariff bill on which the Congress had been at work in special session since March 15. This act will doubtless be identified by the name of Mr. Payne, who introduced it in its original shape in the House of Representatives on March 17. Its official title is—

AN ACT to provide revenue, equalize duties and encourage the industries of the United States and for other purposes.

The act as a whole cannot be reviewed here, dealing as it does with the duties on so many thousands of items, to say nothing of the administrative paragraphs, including provisions for a maximum and minimum tariff under certain conditions, prospective or contingent.

So far as the india-rubber trade is concerned, crude india-rubber and gutta-percha and waste rubber remain on the free list. Imports of rubber goods are dutiable under the new bill at 35 per cent. *ad valorem*, instead of 30 per cent., as heretofore. Rubber sponges, not before specified, come in at 40 per cent. Tires will now be rated as rubber goods and not as parts of automobiles. Imports of hard rubber and gutta-percha were dutiable already at 35 per cent., which rate has been maintained. Some other items more or less related to the industry will have attention in this article.

EXTRACTS FROM THE NEW LAW.

The paragraphs which follow are copied from the Payne tariff act, arranged in the numerical order of schedules and paragraphs. The idea has been to include in the quotations every mention of india rubber in the tariff, whether of much or little importance.

SCHEDULE C.—METALS AND MANUFACTURES OF.

135. [Relating to wires]; telegraph, telephone and other wires and cables composed of metal and rubber, or of metal, rubber and other materials, 40 per cent. *ad valorem* [etc.].

[Under old law 45 per cent. on manufactures of copper telegraph wires and cables not being specified.]

141. Automobiles, bicycles and motorcycles, and finished parts of any of the foregoing, not including tires, 45 per cent. *ad valorem*.

[Under old law 45 per cent. on manufactures of metal, automobiles not being specified.]

[NOTE.—The interest of this paragraph for the rubber trade is in that it removes from discussion whether rubber tires should be considered as parts of an automobile. Tires are thus placed among general rubber goods, the rate on which, under the new law, is 35 per cent. *ad valorem*.]

145. Card clothing not actually and permanently fitted to and attached to carding machines or to parts thereof at the time of importation, when manufactured with round iron or untempered round steel wire, 2 cents per square foot; when manufactured with tempered round steel wire, 45 cents per square foot; when manufactured with plated wire or other than round iron or steel wire, or with felt face, wool face or rubber face cloth containing wool, 55 cents per square foot.

[Under old law: "146. Card clothing manufactured from tempered steel wire, 45 cents per square foot; all other, 20 cents per square foot."]

154. Table [and other specified] knives, forks and steels, finished or unfinished; if imported with handles of - - - hard rubber, solid bone, celluloid or any pyroxyline material, 4 cents each; - - - and in addition, on all the above articles, 15 per cent. *ad valorem* [etc.].

[Under old law 10 cents per piece and 15 per cent.]

167. Rivets, studs and steel points, lathed, machined or brightened, and rivets or studs for non-skidding automobile tires, 45 per cent. *ad valorem* [etc.].

[Under old law 45 per cent. on untempered manufactures of steel.]

187. Penholder tips, penholders and parts thereof, 5 cents per gross and 25 per cent. *ad valorem*; gold pens, 25 per cent. *ad valorem*; fountain pens, stylographic pens, 30 per cent. *ad valorem*; combination penholders, comprising penholder, pencil, rubber eraser, automatic stamp or other attachment, 40 per cent. *ad valorem*. Provided, That pens and penholders shall be assessed for duty separately.

[Under the old law the nearest corresponding provision is: "187. Penholder tips, penholders or parts thereof, and gold pens, 25 per cent. *ad valorem*."]

SCHEDULE I.—COTTON MANUFACTURES.

330. Bone casings, garters, tire fabric or fabric suitable for use in pneumatic tires, suspenders and braces and tubing, any of the foregoing made of cotton or other vegetable fiber and india-rubber, or of which cotton or other vegetable fiber is the component material of chief value, and not embroidered by hand or machinery, 45 per cent. *ad valorem*; - - - belting for machinery made of cotton or other vegetable fiber and india-rubber, or of which cotton or other vegetable fiber is the component material of chief value, 30 per cent. *ad valorem*.

[Under old law, same rates.]

[NOTE.—Paragraph 324 reads: "Clothing, ready made, and articles of wearing apparel of every description, composed of cotton or other vegetable fiber, or of which cotton or other vegetable fiber is the component material of chief value, made up or manufactured, wholly or in part, by the tailor, seamstress, or manufacturer, and not otherwise provided for in this section, 50 per cent. *ad valorem*." This is practically the same as the terms of the old law, except that this clause from the former is omitted: "Provided, That any outside garment provided for in this paragraph having india-rubber as a component material should pay a duty of 15 cents a pound and 50 per cent. *ad valorem*." The revenue derived from imports under this last clause during the fiscal year 1906-07 was \$1,468.77.]

SCHEDULE J.—FLAX, HEMP AND JUTE, AND MANUFACTURES OF.

347. Linoleum, corticene and all other fabrics or coverings for floors, made in part of oil or any similar product, plain, stamped, painted or printed only, not specially provided for herein, if nine feet or under in width, 8 cents per square yard and 15 per cent. *ad valorem*; over nine feet in width, 12 cents per square yard and 15 per cent. *ad valorem*; and any of the foregoing of whatever width, the composition of which forms, designs or patterns, whether inlaid or otherwise, by whatever name known, and cork carpets, 20 cents per square yard and 20 per cent. *ad valorem*; mats for floors made of oilcloth, linoleum or corticene shall be subject to the same rate of duty herein provided for oilcloth, linoleum or corticene; oilcloth for floors, if nine feet or less in width, 6 cents per square yard and 15 per cent. *ad valorem*; over nine feet in width, 10 cents per square yard and 15 per cent. *ad valorem*; waterproof cloth, composed of cotton or other vegetable fiber, whether composed in part of india-rubber or otherwise, 10 cents per square yard and 20 per cent. *ad valorem*.

[Under old law: Oilcloths for floors, under twelve feet wide, 8 cents per square yard and 15 per cent. *ad valorem*; 12 feet wide and over, 12 cents per yard and 15 per cent. Linoleum, corticene, inlaid, and cork carpets, 20 cents per yard and 20 per cent. Waterproof cloth, 20 cents per yard and 20 per cent.]

349. Laces, - - - gorings, bands, bandings, belts, beltings, bindings, - - - webs and webbings, - - - composed wholly or in chief value of cotton, flax or other vegetable fiber and india-rubber, or of cotton, flax or other vegetable fiber, india-rubber and metal, and not elsewhere specially provided for in this section, 60 per cent. *ad valorem*.

[Under old law, 60 per cent. *ad valorem*.]

[NOTE.—The revenue from imports described in this paragraph during the year 1906-07 reached \$22,842,704.53, though of course india-rubber figured in such goods to a negligible degree.]

SCHEDULE K.—WOOL AND MANUFACTURES OF.

383. Webbings, gorings, suspenders, braces, bandings, beltings, bindings, braids, galloons, edgings, insertings, flouncings,

fringes, gimps, cords, cord and tassels, - - - made of wool, or of which wool is a composed material, whether containing india-rubber or not, 50 cents per pound and 60 per cent. *ad valorem*.

[Under old law 50 cents per pound and 60 per cent. *ad valorem*.]

SCHEDULE L.—SILK AND MANUFACTURES OF.

399. [Relates to velvets and the like, in great detail.] But in no case shall any goods made on Jacquard looms or any goods containing more than one color in the filling, including such as have india-rubber as a component material, pay a less rate of duty than 45 per cent. *ad valorem*.

[This provision does not appear in the old law.]

401. Ribbons, bindings, including hat bands, beltings, bindings, all of the foregoing not exceeding twelve inches in width, and if with fast edges, bone casings, braces, cords, cords and tassels, garters, gorings, suspenders, tubings, and webs and webbings, composed wholly or in chief value of silk, and whether composed in any part of india-rubber or otherwise, if not embroidered in any manner by hand or machinery, 50 per cent. *ad valorem*.

[Under old law 50 per cent. *ad valorem*.]

402. [This paragraph relates to practically the same class of goods as the preceding paragraph, when made up and embroidered, the rate being 60 per cent. *ad valorem*.]

[Under old law, 60 per cent. *ad valorem*.]

403. All manufactures of silk, or of which silk is the component material of chief value, including such as have india-rubber as a component material, not specially provided for in this section, 50 per cent. *ad valorem*: Provided, That all manufactures of silk enumerated under any paragraph of this schedule, if composed in any part of wool, shall be classified and assessed for duty as manufactures of wool.

[Under old law 50 per cent.]

SECTION N.—SUNDRIES.

463. Manufactures of bone, chips, grass, horn, quills, india-rubber, palm leaf, straw, weeds or whalebone, or of which these substances or any of them is the component material of chief value, not specially provided for in this section, 35 per cent. *ad valorem*; but the terms "grass" and "straw" shall be understood to mean these substances in the natural form and structure, and not the separated fiber thereof; sponges made of rubber, 40 per cent. *ad valorem*; combs composed wholly of horn, or composed of horn and metal, 50 per cent. *ad valorem*.

[Under old law, 30 per cent. *ad valorem*; rubber sponges not specified before.]

464. Manufactures of gutta-percha, ivory, vegetable ivory, mother-of-pearl and shell, plaster of paris, papier-mache and vulcanized india-rubber, known as "hard rubber," or of which these substances or any of them is the component material of chief value, not specially provided for in this section, and shells engraved, cut or ornamented, or otherwise manufactured, 35 per cent. *ad valorem*.

[Under old law 35 per cent. *ad valorem*.]

FREE LIST.

582. Gutta-percha, crude.

591. India-rubber, crude, and milk of, and scrap or refuse india-rubber, fit only for remanufacture and which has been worn out by use.

MATERIALS FOR MANUFACTURE.

It seems unnecessary to quote the language of the paragraphs relating to certain materials of the rubber manufacture, but only to give the rate of duty, compared with the rates under the old law:

	Old.	New.
Sulphuric acid	¾ cent pound	¾ cent pound
Linseed oil	20 cents gal.	15 cents gal.
Lampblack	25 per cent.	25 per cent.
Vermilion, containing quicksilver ...	10 cents pound	10 cents pound
Whiting and Paris White	¼ cent pound	¼ cent pound
Oxide of zinc, dry	1 cent pound	1 cent pound
Litharge	2¾ cents pound	2½ cents pound
White lead	2½ cents pound	2½ cents pound
Sublimed or flowers of sulphur.....	\$8 ton	\$4 ton
Barytes	\$5.25 ton	\$5.25 ton

REVENUE DERIVED FROM THE RUBBER SCHEDULES.

The entries for consumption in the United States of foreign manufactures of india-rubber and gutta-percha, in the fiscal year 1907-08, and the duties collected thereon, were as follows:

Manufactures of—	Value.	Duties.
India-rubber	\$1,856,584.55	\$556,971.39
Hard rubber	293,417.25	102,695.72
Gutta-percha	41,299.00	14,454.65
Elasticon and other substitutes.....	29,994.00	5,998.80
Total	\$2,221,294.80	\$680,120.56

It is not possible from any published customs statistics to analyze the imports to the extent of determining the value of goods listed in the cotton, woolen, linen, or silk schedules, and having india-rubber as a component part. Such details as are available, however, indicate that the volume is relatively not large. For example, the imports during a recent year, under the cotton schedule, of "Outside garments having rubber as a component material," amounted in value to only \$2,677 and the revenue derived was \$1,468.77.

NOTES.

Asbestos, unmanufactured, remains on the free list; also, cotton and cotton waste or flocks. Rubber toys are not specified, but the toy schedule is so framed that rubber toys cannot enter at a lower rate than 35 per cent., the rate for manufactures of india-rubber.

Chicle remains dutiable at 10 cents per pound.

HISTORY OF THE RUBBER TARIFF.

INDIA-RUBBER now having figured in the United States tariff schedules for nearly eighty years, it may be of interest to the trade to recall here the various revisions relating to crude rubber and manufactures thereof in successive revisions of the tariff law, leading up to that time which has come into effect during the past month. The details which follow have been compiled from official sources.

CRUDE INDIA-RUBBER.

India-rubber was specified in the United States tariff schedules for the first time in the Act of July 13, 1832, prior to which time any imports of this material (then only in a crude form) which may have come to the notice of collectors of customs would have been liable to a duty at 15 per cent. *ad valorem*—the old-time rate on "unenumerated articles."

In 1832 unmanufactured rubber was placed on the free list, where it continued until 1846, when a duty of 10 per cent. was imposed. Thereafter two classes of raw rubber were introduced into the schedules, the rates on which were as follows, through many successive revisions of the tariff:

India-rubber, crude and milk of.—Act of March 3, 1857, 4 per cent.; 1861 to 1862, free; 1862 to July 14, 1870, 10 per cent; from then until now, free.

India-rubber, raw or unmanufactured (bottles, slabs or sheets).—Act of March 3, 1857, 4 per cent.; 1861, free; 1861 (a later Act), to July 14, 1870, 10 per cent. This classification disappeared in the Act of the last date named, since which time all imports of raw rubber have been free.

SUMMARY.

1832-1846	Free	1861-1862	Mixed
1846-1857	10%	1862-1870	10%
1857-1861	4%	1870-	Free

CRUDE GUTTA-PERCHA.

The first imports of crude gutta-percha doubtless were considered at the custom houses as india-rubber, but in the Act of March 3, 1857, this material was specified by name, since which time the terms of admission of gutta-percha have been identical with those for india-rubber. The customs returns, in fact, lumped both under one head until 1891, when the government, at the instance of THE INDIA RUBBER WORLD, first began to require statistics to be kept separately in regard to the two materials.

MANUFACTURES OF INDIA RUBBER.

India-rubber goods were first specified by the tariff makers in the Act of August 30, 1842, prior to which any imported would have been dutiable as "unenumerated articles," the rate on which varied with different revisions of the tariff. The designation was "India-rubber, manufactures wholly or in part of," and the rate of 30 per cent. The rate was changed several times under the twenty-three acts amendatory of the tariff which preceded the Act of June 22, 1874, under which the tariff schedules were embraced in the "Revised Statutes of the United States." This did not make the schedules permanent, however, and six revisions were made in about as many years. The subsequent general tariff Acts have been those of 1883, 1890 (the McKinley bill), 1894 (the Wilson bill), 1897 (the Dingley bill), and 1909 (the Payne bill). It is hardly necessary to mention the rate on rubber goods under each Act. The trend of the charges appear in this

SUMMARY.

1842-1857	30%	1883-1890	30%
1857-1861	24%	1890-1894	35%
1861-1874	24%	1894-1897	35%
1874-1883	25%	1897-1909	35%

There was a tendency at one time to introduce a classification of rubber goods in the schedules. Rubber boots and shoes, for example, figured sometimes at a different rate from rubber manufactures in general, as follows:

Under the Acts of 1861, 30%; other rubber goods, 20%. Under the Revised Statutes (1874), 30%; other goods, 25%. Under the Act of 1883, 25%; other goods, 30%.

Beginning with the Act of 1846 there have been special rates for elastic fabrics and other like goods, which will be dealt with in another part of this article.

The "McKinley bill" (1890) contained this paragraph, the general form of which has been retained in the law until now:

460. Manufactures of bone, chip, grass, horn, india-rubber, palm-leaf, straw, weeds, or whale-bone, or of which these substances or either of them is the component material of chief value, not specially provided for in this act, 30 per cent. *ad valorem*.

The same wording appears in the latest Act, except that the word "quills" is added after "horn," but the rate has been raised to 35 per cent.

Hard rubber manufactures were also specifically mentioned in the tariff schedules for the first time in the revision made by McKinley, in 1890 (Paragraph 461), the rate being fixed at 35 per cent., the same as on manufactures of gutta-percha. The McKinley phraseology has been retained, practically, and the rate has been unchanged, except under the Wilson bill (1894-97), when it was 30 per cent.

MANUFACTURES OF GUTTA-PERCHA.

While crude gutta-percha was mentioned in the tariff five years

earlier, manufactures of gutta-percha were not specified before the Act of July 14, 1862, in which a duty of 30 per cent. was imposed. Since that time the rate has been almost uniformly higher than on india-rubber goods, until the passage of the new Act, under which the rate is the same for both classes of goods.

SUMMARY

1862-1864	30%	1883-1890	30%
1864-1874	40%	1890-1894	35%
1874-1883	36%	1894-1897	35%
1883-1884	40%	1897	35%

RECLAIMED RUBBER.

The reclaiming of rubber from waste having been developed in the United States earlier than elsewhere, the importation of such material from Europe is of recent origin. The status of such importations, as "a non-enumerated manufactured article," is set forth in THE INDIA RUBBER WORLD, June 1, 1909 (page 309). During the recent special of the Congress it was proposed to amend the Payne bill in one paragraph as follows:

Manufactures of - - - india-rubber, INCLUDING RECLAIMED RUBBER - - - not specially provided for in this section, 35 per cent. *ad valorem*; [etc.].

At the same time influences were at work in Washington to have reclaimed rubber placed upon the free list, and the net result was to leave the situation unchanged as to reclaimed rubber. Any importations of such material in future will be subject to the provision—

460. That there shall be levied, collected, and paid on the importation of all raw or unmanufactured articles, not enumerated or provided for in this section, a duty of 10 per cent. *ad valorem*, and on all articles manufactured in whole or in part, not provided for in this section, a duty of 20 per cent. *ad valorem*.

And under "Treasury Decisions" No. 29,731 the treasury department "is of the opinion that the merchandise [described as "certain reclaimed or recovered rubber from old scrap, boots and shoes and automobile tires"] is a non-enumerated article, and you [collectors] are accordingly directed to classify future importations thereof - - - at the rate of 20 per cent. *ad valorem*."

WASTE RUBBER.

The first reference to waste rubber in the official data from which this data is compiled appears in a summary prepared by order of the United States Senate in 1890, in which it is stated that the rate of 25 per cent. on imports of "India-rubber boots and shoes" was applicable to such articles, even if "old and fit only for remanufacture." No record is available of such imports at that time, or the application of this rate. But the McKinley bill, passed in that year, embraced this item in the free list:

613. India-rubber, crude and milk of, and old scrap or refuse india-rubber which has been worn out by use and it fit only for remanufacture.

The Payne bill, as originally reported, contained this item:

587. India-rubber, crude, and milk of, and scrap or refuse india-rubber, fit only for remanufacture, and not ground or otherwise reduced in size.

As reported to the Senate by Mr. Aldrich the paragraph read:

587. India-rubber, crude, and milk of, and scrap and refuse india-rubber, fit only for remanufacture.

After all the permutations of the tariff bill, in the final form, the reference to scrap rubber is the same as in the Act of 1890. The interest in the proposed changes lay in the fact that latterly not a little imported waste rubber has been held to be dutiable, on the ground that it is not material "which has been worn out

IMPORTS ENTERED FOR CONSUMPTION IN THE UNITED STATES, UNDER THE HEADING "MANUFACTURES OF INDIA RUBBER AND GUTTA-PERCHA AND SUBSTITUTES THEREOF," DURING SIX YEARS, THE FIGURES FIRST GIVEN FOR EACH YEAR REPRESENT IMPORT VALUES AND THE FIGURES IN PARENTHESES THE AMOUNT OF DUTIES COLLECTED.

[The heading "Elasticon and similar substitutes for india-rubber" has long been in vogue in the customs service, the rate of duty is 35 per cent. *ad valorem*—that applicable to "unenumerated articles of manufacture."]

IMPORTS.	1902-03.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.
India rubber	\$493,537 (\$148,001)	\$501,027 (\$177,281)	\$1,021,743 (\$306,523)	\$1,749,209 (\$524,740)	\$1,851,423 (\$555,427)	\$1,856,585 (\$556,071)
Hard rubber	117,191 (41,017)	146,272 (51,195)	175,309 (61,388)	195,102 (68,115)	177,319 (61,971)	293,187 (102,066)
Gutta-percha	124,798 (43,679)	141,555 (49,544)	117,427 (41,098)	114,806 (40,181)	175,923 (61,573)	41,999 (14,178)
"Elasticon," etc.	46,994 (9,399)	18,533 (7,797)	44,619 (8,924)	56,046 (11,200)	60,590 (12,110)	9,991 (999)
Total	\$782,520 (\$241,150)	\$807,387 (\$285,728)	\$1,359,109 (\$417,933)	\$2,115,179 (\$644,135)	\$2,265,290 (\$691,090)	\$2,299,762 (\$668,314)
Average <i>ad val</i> duty	30.95%	31.15%	30.76%	30.46%	30.51%	30.37%

by use. Such is the unvulcanized scrap which accumulates in every factory producing goods of rubber and fabrics combined. Such scrap has been admitted at 10 per cent. under an omnibus clause of the Tariff law relative to manufactured articles not enumerated, and this condition is not changed by the new law.

SULPHUR AND THE TARIFF.

THE rate of duty on sulphur, other than crude, in the new Tariff law enacted at Washington is reduced from \$8 to \$4 per ton. Crude sulphur is continued on the free list. The interest to the india-rubber industry is not great, since the importations of refined or "flowers of sulphur" have been very small of late, as compared with crude. The references to sulphur in the new law follow:

DUTIABLE.

81. Sulphur, refined or sublimed, or flowers of, \$4 per ton.

[Old law \$8 per ton.]

ON THE FREE LIST.

686. Sulphur, lac or precipitated, and sulphur or brimstone, crude in bulk, sulphur ore as pyrites, or sulphuret of iron in its natural state, containing in excess of 25 per cent. of sulphur, and sulphur not otherwise provided for in this section.

[Old law (Paragraph 674): The same.]

Importations of dutiable sulphur into the United States have been as follows:

	1904-05.	1905-06.	1906-07.	1907-08.
Refined	\$5,937	\$23,722	\$18,080	\$15,805
Flowers of	23,209	15,493	41,501	40,346

The importations for consumption of lac, or precipitated, and crude sulphur, or brimstone (all free), have been:

	1904-05	1905-06.	1906-07.	1907-08.
Precipitated	\$4,754	\$2,997	\$5,404	\$5,783
Crude (or ore)	1,685,662	1,597,562	638,856	428,983

From these figures it will be seen that the india-rubber trade, though large users of sulphur, have little reason to be interested in the new tariff schedules so far as sulphur is concerned. It might, however, have had reason to be concerned very much more had certain suggestions made to the tariff revisers been adopted. As *Oil, Paint and Drug Reporter* (New York, April 19) pointed out, while the tariff act was pending, if what is now Paragraph 81 had been enacted in the form at one time approved by the Senate committee, no imports of sulphur, in whatever form, would be allowed without being subject to a duty of \$6 per ton. This would have given an absolute monopoly to the American producers, who within a few years have increased their operations to a very important extent.

As is well known, the production of sulphur in Sicily, formerly the chief source of the world's supply, is protected by the government of Italy. As *Oil, Paint and Drug Reporter* says, the government "has created and maintains a monopoly at the expense of heavy financial obligations, not for the sake of any benefit accruing to the country or to conserve its natural resources, but to provide employment for a large army of men whose families would be rendered destitute in event of the closing of the mines or of the adoption of a more economic mode of mining. Under circumstances such as these the difficulties of meeting competition and of conducting an industrial enterprise of great magnitude in a successful way must be well nigh unsurmountable."

Meanwhile the production of sulphur elsewhere than in Sicily has been greatly increased, notably in the United States. In the Louisiana mines, which represent over 90 per cent. of the total American output, the sulphur is melted in the ground by an injection of superheated steam and is pumped to the surface in the liquid, where it crystallizes as it cools. In this form it is known as crude sulphur, though it has been purged of extraneous matter and purified to a certain extent in the process of melt-

ing. Sicily sulphur, on the other hand, is dug in a rough state from the earth and is afterwards melted, so as to separate the rock, dirt and other waste matter in which it is imbedded. This process of cleansing, however, does not advance it in value over the crude Louisiana sulphur. In fact, as to purity, there is no choice between the two.

Our New York contemporary says: "The American [sulphur] industry, which was an infant five or six years ago, has within that time grown to a manhood of lusty proportions, that fed by new and vastly superior methods of mining and nourished by able and energetic management, it has thrived without assistance of government, and in spite of certain ill-judged efforts on the part of State authorities to cripple it. It has even gone so far as to carry the war into Africa and to invade the European markets. The imports of brimstone have fallen from 181,130 tons in 1903 to 25,740 tons in 1908."

The same writer asks, then, why the government should consider it necessary to accord this industry a high measure of protection. But as will be seen from what precedes these paragraphs, crude sulphur continues to be admitted free, while flowers of sulphur are dutiable at only one-half the former rate.

* * *

WHILE the tariff bill was pending a correspondent wrote:

TO THE EDITOR OF THE INDIA RUBBER WORLD: As you probably know, the Union Sulphur Co. of Louisiana produces about all the sulphur made in the United States, and they work under the patents of Herman Frasch, who first invented the process of removing sulphur from Western petroleum, which the Standard Oil Co. used with great success. [See THE INDIA RUBBER WORLD, September 1, 1906—page 381.] He persuaded these same friends to spend a large amount of money on his process, and now it is possible to produce sulphur at about one-fourth its selling price, so that any protection is unnecessary. H. O. C.

RUBBER IN MILKING MACHINES.

AN inquiry comes from Sweden in regard to obtaining rubber of extra soft quality for use in milking machines. It is stated: "The grade usually obtainable in Sweden is too hard, and as used to embrace the cows' nipples it causes pain." This correspondence was referred to a prominent firm manufacturing "milkers," who write to THE INDIA RUBBER WORLD:

"The rubber used in connection with these machines is made of a special composition, so that it will impart no odor to the milk, and at the same time be least affected by the fat in the milk. As you can understand, we have spent a great deal of time and money in order to obtain the proper compound, and we feel that this is a justifiable trade secret."

There appears to be a constant increase in the use of milking machines, on which THE INDIA RUBBER WORLD published an article September 1, 1907. A single firm states that their machines are used for milking 35,000 cows in the United States and Canada and about 25,000 in Australia and New Zealand. A considerable amount of rubber is required for these machines, both for the teat cups and tubing to connect the machines with the receiving cans. The latter are provided also with rubber gaskets to render the covers milktight.

Many inventors have busied themselves in the development of machines for milking cows, a single firm now controlling 25 patents in this field, with other patents pending.

G. VAN DEN KERCKHOVE, of Brussels, who is the inventor of several types of apparatus for rubber extraction and coagulation, has designed a stump-pulling outfit for use in clearing lands for rubber plantations. He constantly advises rubber planters to carefully take up all the roots of trees cut down, as the old roots rot underground, and he regards this one of the principal causes of fungus being propagated.

Rubber Planting in Dutch Guiana.

THE fact that the government of Dutch Guiana, in South America, is now planting 500 acres of *Hevea* rubber draws attention to the possibilities of that country for the same sort of development that has taken place in the Far East. There are at present in that colony many going plantations that are producing cacao and sugar, where the land has been dyked and drained, and upon which there are now substantial plantation buildings. The partial failure of the cacao crop, and the far greater profit in rubber, has turned the attention of the planters to the latter. The movement seems to be in favor of a joint planting of bananas and rubber, there being a good market for bananas from that region, now that the United Fruit Co. have established a regular weekly service between Paramaribo and New York. That the *Hevea Brasiliensis* will do well is proved by a number of experimental plantings that already exist. These plantations are about a dozen in number. The oldest, containing some 300 trees ten years old, recently yielded about 3 pounds per tree. The most ambitious rubber plantation is the youngest and contains 14,000 *Hevea* trees from 1 to 1½ years old.

With a stable government, freedom from unjust taxation, and a climate and soil fitted for such cultivation it would seem likely that there would be considerable done in rubber in the next five years. Added to all this is the assistance of the government in providing British coolie labor under the indenture system, at

only a nominal cost to the planter, from which it would seem that *Hevea* rubber cannot only be grown as well in Dutch Guiana, but as cheaply as in the Far East. There is but one point that remains unsettled, when one considers all of the factors that go to make up a successful *Hevea* plantation in the country under consideration, and that is rainfall. In Surinam, according to Dutch government reports, it averages about 90 inches, well distributed through the twelve months. This certainly is not excessive, but is it enough?

The table which follows gives the details of the experimental tapping of 10 ten-year-old *Hevea* trees on the Waterland plantation, in Dutch Guiana:

EXPERIMENTAL RUBBER TAPPING IN DUTCH GUIANA.

TREES.	Method.	Times Tapped.	Dry Rubber.	Scraps.	Total.
No. 1.....	herring bone	116	1,484 gr.	253 gr.	1,737 gr.
No. 2.....	do	115	1,141 gr.	253 gr.	1,394 gr.
No. 3.....	do	104	624 gr.	253 gr.	877 gr.
No. 4.....	do	117	1,160 gr.	253 gr.	1,413 gr.
No. 5.....	half spiral	106	586 gr.	253 gr.	839 gr.
No. 6.....	do	105	779 gr.	253 gr.	1,032 gr.
No. 7.....	do	45	604 gr.	253 gr.	857 gr.
No. 8.....	do	107	1,145 gr.	253 gr.	1,398 gr.
No. 9.....	spiral	56	577 gr.	253 gr.	830 gr.
No. 10.....	V shaped	70	501 gr.	253 gr.	754 gr.

Total production..... 8,321 gr. 2,530 gr. 10,851 gr.

NOTE.—It is evident the weights given for scraps are arrived at by taking the whole yield of this grade as one mass and dividing it by the number of trees tapped.



RUBBER PLANTING IN DUTCH GUIANA.
[Three year-old *Hevea Brasiliensis*.]



RUBBER PLANTING IN DUTCH GUIANA.
[TEN YEAR OLD *Hevea Brasiliensis*.]

CEARA RUBBER IN CEYLON.

It seems to be the general belief that all the Ceará rubber (*Manihot*) planting in the East were failures, and that none of it now remains, having been supplanted by *Hevea*. That is not the case exactly. Much of the early planting of the Ceará was a disappointment, and many of the planters cut down their trees and went in for *Hevea* because of its surer and greater productiveness. That there are mature Ceará trees that are regular and profitable producers is the fact. The illustrations shown herewith make this plain. The tree shown in one is on the Warringalla estate, Ceylon, while in the other is shown the process of making biscuits on the Pallekelle estate, Ceylon. From the last named estate there have been shipped as much as 4,000 pounds of dry rubber in one year.

MEXICAN MUTUAL PLANTERS' CO.

At the eleventh annual meeting of shareholders (Chicago, June 9) the death was announced of Mr. George C. Sanborn, one of the founders of the company, and its president from the beginning. [See THE INDIA RUBBER WORLD, Aug. 1, 1909—page 403.] The directors were re-elected, with the addition of J. W. Stapleton, to fill the vacancy caused by the death of Mr. Sanborn. Frank B. Stone, a wholesale hardwood lumber merchant, of Chicago, a director from the beginning, and latterly vice-president, was elected president. The other officers elected were: Edward H. Stearn, vice-president; C. B. Woodruff, secretary, and Joseph Cummins, treasurer. It was the sense of the meeting that a committee of the directors should pay an early visit to the company's rubber plantation, "La Junta," in Vera Cruz, Mexico, and make a report on the same to the investors.

MUTUAL RUBBER PRODUCTION CO. NO. 1.

BULLETIN No. 31, issued to the investors in this company from the main offices in Boston, contains in full the report of the fifth annual inspector, Elbert C. Kinney. He visited the plantations in Mexico in February last, and recorded in detail the extent of the development work, together with the growth of the planted trees of different ages. Photographs are given of the growing trees and the of the principal buildings on the estate, which are near Frontera, in the state of Tabasco. He states that he saw 315 seven-year-old trees tapped for the first time, yielding at one tapping an average of $1\frac{3}{4}$ ounces of washed sheet rubber; 195 other trees were then tapped with more care, yielding 2 ounces on an average. It is believed that the trees will stand being tapped three times a year. The company has nearly 4,000 acres under *Castilloa* rubber.



CEARA RUBBER IN CEYLON.

[Making biscuits on Pallekelle estate, Dumbara district.]

RUBBER CONTRACT SALES.

THE Selensing Rubber Co., Limited, in February contracted for the sale of their 1909 output of fine rubber. Colombo delivery, at 3.70 rupees [= \$1.20, gold] per pound, estimated to reach 20,000 pounds. In June their 1910 output, estimated at 30,000 pounds, was sold on the same terms.

Beverlac (Selangor) Rubber Co., Limited, are reported to have sold their best grades of rubber for delivery between February 1, 1910, and January 31, 1911, at 3.80 rupees [= \$1.34.39] per pound.

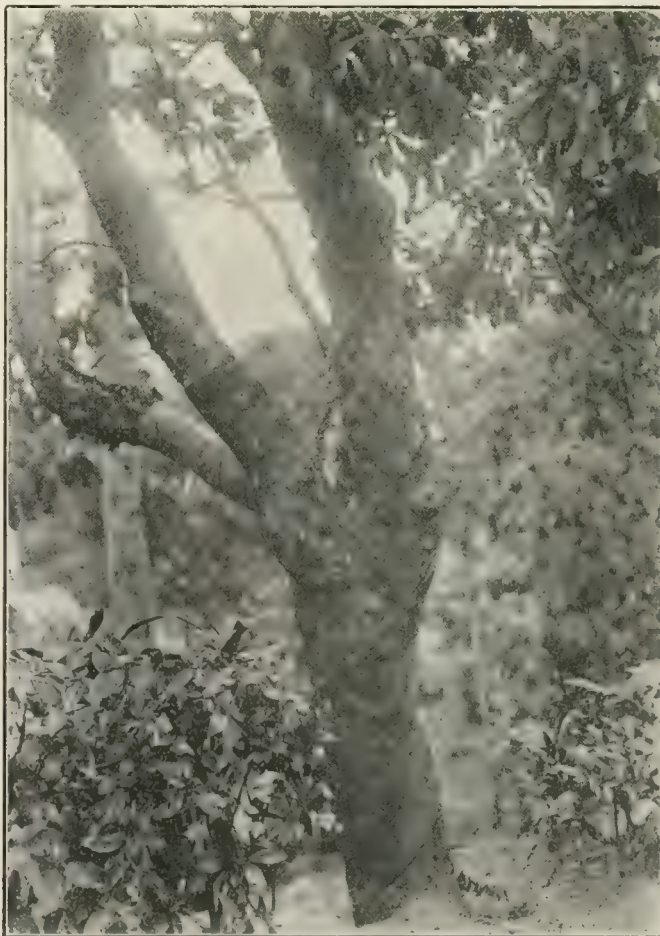
The *Times of Malaya* (June 8) reports: "A large rubber estate in Klang has foresold the whole of its crop for the next three years at 5s. 11d. [= \$1.43.9] per pound."

AN ITEM FROM "DARKEST AFRICA."

A FORESTRY officer in the Eastern province of Northern Nigeria (British West Africa) says in an official report that the progressive Opobo chiefs, in particular, have purchased thousands of *Hevea* rubber plants, specially nursed in boxes, to stock their plantations.

DISTANCE OF PLANTING RUBBER.

THE Bukit Rajah Rubber Co., Limited, who have 2,340 acres under rubber planted at various distances, and who produced last year 210,081 pounds of rubber, report that the best results have been gained from trees a distance of 27 x 27 feet, and they are now thinning out some of the rubber more closely planted. In the crowded fields the bark does not renew so thickly or the trees yield so much latex as in the widely planted fields. On their Sundei Binjai fields, with the wide planting, the trees yielded 4 pounds each, or 300 pounds to the acre.



CEARA RUBBER IN CEYLON.

[Twenty-year-old *Manihot* tree on Warriapolla estate, South Matala.]

Rubber Selling on the Amazon.

TO THE EDITOR OF THE INDIA RUBBER WORLD. Why is it that manufacturers of rubber goods, the consumers of the raw material, are obliged to buy their supplies from less than half a dozen dealers? It seems to me that herein is the secret of the recent high prices of rubber, and of fluctuations in rubber prices generally.

New York, August 10, 1909.

A MANUFACTURER.

THIS is a very timely, as well as a very pointed question. It shall have careful attention. The first suggestion that comes to mind, however, is to propose another inquiry:

Are rubber manufacturers obliged to buy their supplies from only a few firms?

In the years when THE INDIA RUBBER WORLD was getting a start a very important volume of business in crude rubber between Pará and New York was done without the intervention of middlemen. For example, the late Hon. Elisha S. Converse and the late Joseph Banigan, sharp competitors as they were in selling their products, carried on their buying of Pará rubber through the same channel. In other words, they bought in Pará and received direct shipments. And to-day the United States Rubber Co., while they may buy rubber in any market which may prove attractive for the time being, are proceeding upon the theory of buying as near the source as possible. They have their own buyers, for example, at Pará and Manáos, just as any individual or firm on the earth may do.

Rubber is freely offered for sale at Pará—as freely as postage stamps at any post office. The people who own the rubber are looking for buyers. They can't eat it; they can't wear it in the crude state; it has no ornamental use; they want to sell it as quickly as possible after it comes into their hands. In the ordinary course of events rubber comes down the Amazon, from hundreds and thousands of *seringacs*—by steamer or launch or canoe—in lots of pounds or hundredweights or tons, consigned to hundreds of merchants who, in some way or other, have made advances to the producers of the rubber. The producer may come down stream himself, with his year's "crop;" but in any event the rubber is most likely to come into the possession of the general merchants who for a year have provisioned the rubber camps, and as soon as the rubber arrives these merchants hasten to realize on it, for have they not bills to meet for goods bought in Europe? The system will appear simple to the reader who can recall the era when cotton planters in the southern United States drew upon their factor for all supplies needed during a year, and shipped the cotton crop to that factor when it was gathered.

In a single week rubber may come down the Amazon to more than a hundred merchants. Does any one wish to buy? Will some one kindly buy? *Please buy!* The merchants are more than anxious to sell. What do they care about who buys? A manufacturer's money would look as good to them as any other money. While it is true that the consignee of rubber at Pará realizes as promptly as possible on his receipts, even if the producer upriver should be left in debt to the merchant, still it is natural that he should look for the best prices possible. And here comes in the first element of competition—A, B and C, in New York, or C, D and E, in Europe, all want rubber, and as they bid over one another prices may go up. Or, if the demand from manufacturers be less pressing, their lack of zest in buying may cause Pará prices to sag.

But every man, woman, and child in America, or Europe, or elsewhere, who has cash or bank credits, can, every day in the year, buy rubber as freely, in Pará or Manáos, as one may obtain papers from a New York newsboy.

An element in the case to be considered, however, is that the maintenance of a capable buyer in the prime markets, with sufficient capital to give one a standing in the trade, costs money.

It is only natural, therefore, that consumers of rubber have preferred to buy rubber from houses at their doors, conducted by merchants who have familiarized themselves with the whole situation, risked much capital, and in the end have almost monopolized the importation of rubber.

There are indications, however, of changing conditions in the trade. Hundreds and thousands of rubber producers in the Amazon interior are asking themselves why they—or their consignees—are compelled to sell their rubber to "less than half a dozen dealers." It has been because our correspondent, and other manufacturers like him, have not cared to maintain buying houses on the Amazon. The new condition to be noted is the consolidation of rubber producing interests on a better financial basis than formerly, rendering the producer less dependent upon the buyer and the price of the moment. Likewise the producer is becoming able to meet the consumer at least half way in any system which may be organized for bringing the *seringal* and the rubber factory nearer together, instead of the manufacturer being obliged to do all the work, and assume all the risk, as in the past.

The Amazon is ready to-day to sell rubber in New York or in Liverpool, from "first hands," as freely as in Pará or Manáos.

ALVES BRAGA COMPANY.

THE Alves Braga Rubber Estates and Trading Co., Limited, was registered in London, January 30, 1909, with an authorized capital of £240,000 in 6 per cent. (cumulative) preferred shares and £200,000 in ordinary shares—total, £440,000 [= \$2,141,260]. The domicile of the company is in Liverpool. The objects are to enter into partnership with the firm of Alves Braga & Co., of Pará, Brazil, and to adopt certain agreements between this firm with merchants in Liverpool and elsewhere; to carry on the business of rubber growers, gatherers, manufacturers, brokers, dealers, and merchants, at Pará and elsewhere; to acquire landed properties in Brazil and elsewhere; to acquire and operate ships or boats; to lend moneys and guarantee the fulfillment of contracts; and in general to engage in any forms of business necessary to the carrying out of these objects. The president of Brazil on March 18, 1909, signed decree No. 7363, authorizing this company to operate in that republic.

The first directors are José Simao da Costa, actuary, of Pará, and Eduardo Augusto da Costa, merchant, of Liverpool, with the last named the first managing director. The management in Liverpool may appoint directors resident in Brazil for the management of the company's business there. The first secretary is Richard Clegg Harrison.

The house of Alves Braga & Co. is among the most important in Pará, having been established for more than 20 years. The original style was Martius, Pinto & Alves, and their business that of importers. The house has always enjoyed an extensive credit, even during periods of financial crisis. The head is Antonio Rodrigues Alves, a Portuguese by birth and Brazilian by adoption. It has been for some years one of the leading *avacado* houses of Pará—i. e., consignees for rubber and other produce from up the Amazon. Their business is now done exclusively with the Acre territory, where they now possess large *seringacs* (rubber estates), with which communication is maintained by means of their own boats. Mr. Antonio Rodrigues Braga will be one of the directors on the Amazon of the new English company.

The annual rubber "crops" of Alves Braga & Co., during seven years past have aggregated the following quantities:

1902-03.....	361,062	kilos [= 794,336 pounds]
1903-04.....	349,348	kilos [= 768,566 pounds]
1904-05.....	474,084	kilos [= 1,042,985 pounds]

1905-06	551,620 kilos	[= 1,213,577 pounds].
1906-07	433,648 kilos	[= 954,026 pounds].
1907-08	459,192 kilos	[= 1,010,222 pounds].
1908-09	492,763 kilos	[= 1,084,079 pounds].

Average, seven years.....445,960 kilos [= 981,112 pounds].

The productive capacity of the company's *seringaes* is much larger than these figures indicate, and their intention, now that their capital has been increased, is to open many more *estradas*. In THE INDIA RUBBER WORLD of July 1, 1909, appeared photographic views of important *seringaes* in the Amazon region. Similar views appear in the "Album do Rio Acre" of three large *seringaes* and three river steamers owned and operated by Alves Braga & Co., and besides they own many more. The *seringaes* are:

"Panorama," on the left bank of the upper Acre; area, 98,106,800 square meters [= 24,243 acres]; annual production, 25 to 30 tons. Manager, Adolpho Barbosa Leite.

"Nova Empreza," on the left bank of the Acre; annual production, 40 tons. Manager, Colonel Hypolito Moreira.

"Esmeralda," at the confluence of the river Xapury with the Acre.

"Recreio" (adjoining and not photographed), on the left bank of the Xapury; area, 2,598,550 square meters [= 642 acres].

The steamers are the *Amazonense*, 250 tons; *Amazonas*, 190 tons; *Prompto*, 120 tons.

AN AMAZON RUBBER SYNDICATE.

UNDER the name "A Productora Amazonica" has been formed at Pará a syndicate of "professional rural producers" of the Amazon Valley, under the provision of the decree of the Federal government of Brazil, No. 979, January 6, 1903. [See THE INDIA RUBBER WORLD, January 1, 1909—page 154.] The present syndicate is concerned with india-rubber. As stated in the by-laws:

The syndicate will endeavor to help its members by furnishing the means that they may need, either with the funds of the association, or with those resulting from the financial operations that it may realize, not placing the borrowers in any other obligation than the payment of interest.

To be a member of this rubber syndicate "it is necessary to be a proprietor, or to assist directly or regularly with the necessary elements for the promotion of the business." In other words one must be the owner of the *seringal* (rubber camp) or an *aciador* (a supplier of goods), as set forth in THE INDIA RUBBER WORLD, July 1, 1909 (page 347).

The syndicate will be managed by a board of its members, serving gratuitously, elected at a general meeting, which board may appoint a manager and a treasurer, each with a salary. By the way, the voting power of each member of the syndicate will be proportional to the previous annual production of rubber. But the details of the by-laws of A Productora Amazonica, verified at Pará, July 15, 1909, are of less importance than the general objects of the association, which may be stated as follows:

Producers of rubber in Brazil may, by compliance with certain laws, export their product at a lower rate than is exacted under the general rule. But it must first be established to the satisfaction of the authorities that (1) the rubber in question has actually been produced by the parties holding it; (2) that it is being exported directly by them to foreign buyers; and (3) that those dealing with the rubber are solvent and responsible parties. In order that the latter consideration may obtain the government requires the coöperation of a number of producers (not less than seven); hence the idea or requirement of a syndicate.

The advantage to exporters direct (who are actual producers of rubber) under an act of the Pará legislature is indicated by the following table, showing the rate of export duties required in that state:

Up to 5,246 milreis per kilogram	22 per cent.
From 5,250 to 5,500 milreis per kilogram	21 per cent.
From 5,501 to 5,800 milreis per kilogram	20 per cent.
From 5,801 to 6,100 milreis per kilogram	19 per cent.
Over 6,100 milreis per kilogram	18 per cent.

It will be seen here that the intent of the law, in part, is to encourage conditions which will keep up prices of rubber, since the higher the price, the greater will be the reduction of export duties. But this, of course, will be regulated by the conditions in consuming markets. By the way, 5,246 milreis, mentioned in the table, are equivalent, with exchange at 15 pence per milreis, to \$1.58, and 6,100 milreis to \$1.82.4.

It is understood that the firms named below, among others, have subscribed to the articles of A Productora Amazonica. Opposite each name is placed the amount of rubber the firm has produced (1) on an average during six crop years prior to 1908-9; and (2) during 1908-9—all figures indicating kilograms [1 kilograms = 2.2 pounds]. It must be stated, further, that this relates to up-river rubber alone, besides which some firms have produced Islands rubber.

FIRM.	Av. 6 Years.	1908-09.
R. Suarez & Co.	663,138	1,301,697
Mello & Co.	997,245	927,907
Barbosa & Tocantins	319,793	764,668
Alves Braga & Co.	438,160	492,763
Rocha Silve & Co.	176,782	369,398
Cerqueira Lima & Co.	340,319	219,042
Pina Fernandes & Co.	287,466	209,032
La Rocque, Mello & Co.	67,548	143,441
Antonio Cruz & Co.	408,925	123,864
Armindo R. da Fonseca	222,039	101,454
Velhote Silva & Co.	192,937	83,003
Total	4,114,352	4,736,269

The new syndicate has organized with Baron de Souza Lages as president; Antonio Rodrigues Alves vice-president; Wanddyck Amanajos Tocantins and João da Rocha Fernandez secretaries. They will serve until July next.

SUAREZ INCORPORATED.

THE long anticipated conversion of the rubber business of Suarez, on the upper Madeira, in Bolivia, into a corporation is at last a reality. A sketch and portrait of "Nicolas Suarez, a South American Rubber Baron," appeared in THE INDIA RUBBER WORLD April 1, 1905 (page 223), with an account of the development of the great crude rubber business under his control. Taking his brothers into partnership one by one, his firm prospered; they opened their own houses in Manáos, Pará and London, and sold direct. Their operations last year covered 1,302 tons of the 38,065 tons arriving at Pará, or 3.4 per cent. There is no invidious distinction in stating here that the Suarez rubber long has been known to manufacturers as absolutely the best "Pará rubber" produced, and hence realizing the highest prices paid for the output from the Amazon.

Nicholas Suarez is no longer a young man, and he is now the sole surviving brother, so it is not surprising that he has consented to turn over his business to a corporation. The business has been carried on under the names—

Suarez Hermanos [Suarez Brothers], in Bolivia.
R. Suarez & Co., on the Amazon.
Suarez Hermanos & Co., in London.

The new company is Suarez, Hermanos & Co., Limited, registered in London August 5, 1909, with £750,000 [= \$3,649,875] capital. The first directors are Nicholas Suarez and his nephew, P. Suarez, a son of the late R. Suarez. The latter was consul general for Bolivia in London, to which position P. Suarez has succeeded. The offices of the new company are at 12, Fenchurch street, London. The company will succeed to the interest of the Suarez firm in A Productora Amazonica, mentioned elsewhere in this paper.

THE London *Daily Express* recently sent circulars to a number of British manufacturers, inviting an expression of their sympathies as between protection and free trade. The leading rubber manufacturers were included, but the responses from this trade were not numerous, and the firms responding, for the most part, did not care to be quoted over their names.

The Dark African Rubber Prospect.

DECLINE OF THE "ABIR" COMPANY.

IN the palmy days of rubber trading profits in the Congo the ABIR company (Abir, Société à responsabilité limitée—originally the Anglo-Belgian India-Rubber and Exploration Co., of Brussels) was conspicuous for the size of its dividends and the quotations on its shares on the Belgian *bourses*—to say nothing of the speculation in its shares. To quote from THE INDIA RUBBER WORLD, December 1, 1901 (page 84):

The profits of the Société ABIR, based chiefly on rubber, but also to some extent on ivory, have been, for these recent years:

For 1898 2,482,697 francs 248 per cent.
For 1899 2,768,642 francs 277 per cent.
For 1900 4,873,356 francs = 487 per cent.

At the beginning of 1898 shares in ABIR were quoted at 14,500 francs, or 29 times the nominal value; at the beginning of 1900 the quotation was 17,600 francs, or 35 for one; by September, 1900, the figure rose to 28,925, or practically 60 for one; at the beginning of this year the rate was 25,075, or 50 for one.

The most recent quotation for ABIR shares on the Antwerp *bourse* available at this writing was 2,187½ francs, or a little more than four times the par value, and the report adds: "Last payment of coupons, July 15, 1905." Not even the recent high price of rubber has served to support these shares, which a year ago were quoted at 3000 (for 500 francs par).

The ABIR company have always had close relations with the State. At a certain time a new arrangement was entered into [see THE INDIA RUBBER WORLD, February 1, 1907—page 142], under which, in lieu of the former conditions, the company should be entitled to receive on the quay at Antwerp, at the uniform price of 4.50 francs per kilogram [=39.4 cents per pound], any rubber which might be produced on its concession in Africa. The working under the new arrangement appears not to have been satisfactory.

At the annual meeting on June 7, referring to the trading for 1908, the report says:

"The rubber was of indifferent quality and the general crisis in the market compelled us to sell at a loss during more than six months of the year. You know that the minister for the colonies notified us that the working of the sources of rubber supply on the company's territory was to be discontinued on and after January 1. As a result of this state of affairs, the board of directors was greatly troubled, and the negotiations induced the minister to declare that he would collect information on the spot, as he earnestly desired to arrive at a solution which would respect the lawful rights of the stockholders. The ministerial decision was made in consequence of reports, declaring that rubber *lianas* (vines) were no longer to be found on the greater part of the concession. In contradiction of these reports we have presented other certified statements. The contract of September 12, 1906, proves the obligation of the government to take charge of the working for our account. The rights vouchsafed us by the said contract remain unimpaired. The information received leads us to believe that the order to cease gathering crops is not absolutely comprehensive, since certain gathering posts were said to be still in existence, at least on March 24 last."

In *La Chronique Coloniale* appears this extract from the company's profit and loss account for 1908:

DEBIT.

General expenses in Africa and Europe francs 63,815.70
Selling expenses and royalty on the products 264,342.37 328,158.16

CREDIT.

Net proceeds of sales 303,655.12
Rebate on the license for 1904 10,338.31 313,993.43

Debit balance 14,164.73

This unfavorable showing—a loss on the year's trading—is

ascribed by the company to their having been obliged to sell rubber during part of the year at less than the price at which it was delivered by the government. The company having lived up to all its obligations, including the planting of the required number of rubber vines, it felt entitled to some compensation from the government, to obtain which formal steps have been taken.

There is not space here for a further discussion of the company's accounts, but the difference between two year's results, as shown by the published accounts—

Profits in 1900 4,873,356.00 francs
Loss in 1908 14,164.73 francs

—cannot be attributed alone to any governmental action. Even in 1904, when the trading profit had fallen to 1,201,400.89 francs, the ABIR company gathered 445 tons of rubber. The report for 1908 shows the collection of only 103 tons, "equivalent, on the basis of an estimated loss of 40 per cent, by drying, to a production of rubber amounting to 62 tons."

UNFAVORABLE RESULTS IN THE FRENCH CONGO.

THE accounts of Cie. Française du Haut-Congo presented at the last annual meeting (Paris, July 26), while showing a profit for the year 1908, revealed a gradual decline in prosperity. This is one of the more successful of the rubber trading companies holding concessions in the French Congo. It is, in fact, the only company, in a list of 32 existing ten years ago, which has shown a profit every year; some of the companies have ceased to exist. The report of the Française du Haut-Congo, therefore, may be regarded with special interest.

During the year 47,800 kilograms of rubber figured in their accounts against 70,885 kilos in the previous year; the amount of ivory, however, increased. The gross and net profits (in francs) and the dividends for four years have been:

	1905.	1906.	1907.	1908.
Gross profit	881,193.60	1,116,075.10	949,459.40	748,698.30
Net profit	322,593.20	475,289.70	304,073.60	150,444.95
Dividend on capital shares	7%	8%	7%	5%

[a The figure is not at hand.]

In addition to these dividends, 1½ per cent. on the "beneficiary shares" (common stock) was distributed in 1906 and 1 per cent. in 1907.

These figures are presented only as a single indication of the lack of success of the *concessionaire* trading system in the rubber regions of the French Congo. We may refer here to a table printed in *La Chronique Coloniale* (Brussels, July 22, 1906), in which details are given in regard to the 32 companies referred to already, for the years 1900 to 1904, inclusive. Their nominal capital amounted to 52,750,000 francs and their share issue to 35,040,062 francs. An analysis of their published reports of operations gave these figures:

Combined net losses in 1900.....	francs 2,583,332
Combined net losses in 1901.....	4,255,077
Combined net losses in 1902.....	3,645,498
Combined net losses in 1903.....	1,257,760
Combined net gains in 1904.....	1,846,490

Combined net loss in five years..... 9,805,177

The one company, as already stated, which showed a net profit every year was the Française Haut-Congo. Their record of gain from the beginning has been (in francs):

1900.....	105,805	1903.....	79,781	1906.....	475,200
1901.....	110,608	1904.....	108,763	1907.....	304,074
1902.....	43,148	1905.....	322,693	1908.....	150,445

The best that can be figured from this is an average yearly return on the capital of less than 4½ per cent., which is not

large, considering the risks involved. The *concessionaires* must at times have envied their neighbors in the Congo Free State, where close relations existed with the government of a strenuous king-sovereign.

LOWER DIVIDENDS OF A DUTCH COMPANY.

At the last annual meeting of Nieuwe Afrikaansche Handels Vennootschap (Rotterdam, July 8), accounts were presented which permit the following comparative figures to be given. The company is the oldest trading on the Congo, having established a branch at Boma before the Belgians became established there. Lately the company have held 340 of the 2010 shares in the Cie. du Kasai (Kasai syndicate). Rubber has figured largely in the operations of the company. The dividends derived from the Kasai holdings, which form only part of the company's profits, have been (for fiscal years ending October 31):

1906.....	286,882.00 florins	[= \$115,326.56]
1907.....	121,992.45 florins	[= 49,040.96]
1908.....	67,440.64 florins	[= 27,113.55]

The yearly dividends declared by the N. A. H. V. and the rate were as follows:

1906.....	358,453.50 florins (17 per cent.)
1907.....	168,684.00 florins (8 per cent.)
1908.....	105,427.50 florins (5 per cent.)

The N. A. H. V. have been interested in the Cie. Bruxelloise pour Commerce du Haut-Congo to the extent of 200,000 francs, but this connection is to cease, the capital of the latter now to be reduced from 1,000,000 to 800,000 francs. The Bruxelloise company have worked for some time at a loss, the profit and loss account being debited at the last annual meeting (Brussels, June 30) at 219,975.06 francs.

CAPITAL ATTRACTED TO THE FAR EAST.

THE declining output of rubber from the Belgian Congo (formerly the Congo Free State) continues to lead to developments of interest pointing to the disposition of Belgian capitalists to seek investments in rubber in new directions. The average yearly receipts of Congo rubber at Antwerp for the ten years 1899 to 1908 inclusive were 4,584.6 tons, the largest year being 1901 (5,417.4 tons). During the first six months of the present year 1,716 tons arrived, against 2,257.5 tons in the same period of last year.

The interest of the Belgian rubber trade in the planting interest in the Far East has been noted already in THE INDIA RUBBER WORLD, at various times. Mention has been made of companies formed in Belgium to promote rubber planting in Malaysia, in which an important part was taken by leading members of the crude rubber trade in Antwerp, whose interest formerly was in the produce of the Congo Free State.

The latest development in this field has been the organization at Antwerp of the Société Financière des Caoutchoucs, with a capital of 31,000 shares, the subscribers to which are:

	SHARES.
The Belgian Congo government	1,000
Bunge & Co. (Antwerp) and other Bunge interests.....	6,000
Members of Grisar & Co. (Antwerp)	2,000
Antwerp bankers	3,000
Brussels bankers and merchants	2,000
Paris bankers	6,000
Geneva bankers	4,000
Rotterdam bankers	2,000
Amsterdam merchants	1,000
Naples merchants	1,000
German merchants	2,000
Hon. Everard Fiddling, London	1,000

Bunge & Co., named above, are the largest consignees of rubber at Antwerp, receiving all the rubber in which the Congo State has an interest. Grisar & Co. are the official rubber brokers at Antwerp. The subscribers to the shares of the new company include directors in these important rubber planting companies, among others:

Federated Malay States Rubber Co., Limited—Selangor
Kuala Lumpur Rubber Co., Limited—Selangor.
Vereenigde Hevea Plantagen der Bita Landen—Sumatra

The new Antwerp company has for its object investments in rubber planting undertakings which may appear attractive, either new enterprises or those already established which may need additional capital for their further development. It is understood that arrangements have been made for the coöperation of the new Antwerp company with the new Eastern International Rubber Produce Trust, Limited, recently brought out in London with £500,000 [= \$2,433,250] capital. A dinner attended by members of both companies was given at Antwerp on the evening of July 12, in honor of Mr. Edouard Bunge, of Bunge & Co., to welcome him as president of the Société Financière des Caoutchoucs.

INCREASE IN THE GUAYULE TRADE.

WHILE no exact figures are available as to the exact amount of guayule rubber produced or sold, a fair idea can be gained from the statistics of Mexican crude rubber generally. Before the appearance of guayule in commercial quantities, the exports of rubber from Mexico averaged less than 400,000 pounds annually, and it is probable that they do not now exceed 500,000 pounds. It may be assumed, therefore, that the figures given below, in excess of 500,000 pounds yearly relate to guayule:

UNITED STATES IMPORTS OF MEXICAN RUBBER.

	Pounds.	Value.	Average.
Year ended June 30, 1904.....	366,104	\$148,921	40.7 cents.
Year ended June 30, 1905.....	352,690	185,951	52.7 cents.
Year ended June 30, 1906.....	1,705,915	866,283	50.6 cents.
Year ended June 30, 1907.....	7,175,097	2,877,022	40.1 cents.
Year ended June 30, 1908.....	9,269,443	3,888,684	41.9 cents.
Year ended June 30, 1909.....	15,460,365	5,466,904	35.3 cents.

MEXICAN EXPORTS OF CRUDE RUBBER.

[Official Returns for Years ending June 30.]

	1906-07.	1907-08.
To Germany	2,016,230	2,067,872
To Belgium	33,211	196,084
To Spain	35,389	46,266
To United States.....	8,128,380	9,788,962
To France	105,787	39,827
To Great Britain.....	1,855	230,351
To Canada		783
To British Honduras.....	114	961
To Panama		535
To Italy	282	
Total	10,321,248	12,372,241

The exports for the last six months of the year 1908 are officially reported at 6,121,863 pounds.

GUAYULE SHRUB.

The exportation of the guayule shrub, to be worked into rubber elsewhere, is increasing at a rapid rate in spite of the export duty imposed. The figures are:

Fiscal year 1906-07.....	pounds	1,471,226
Fiscal year 1907-08.....		2,844,325
July-December, 1908.....		1,722,836

During the first year under review the greater part of the shrub exported was taken by the United States, to-day a third or more goes to Germany.

THE Kommerzienrat Seligmann, of the Continental Caoutchouc und Gutta-Percha Compagnie, of Hanover, celebrated recently the thirtieth anniversary of the day on which he entered upon the office of manager of the company. Herr Direktor Seligmann was only 26 years of age when he was called upon to take his place at the head of this manufacturing concern. It would be idle to refer in detail to the importance of Mr. Seligmann's work in behalf of the company he manages. His name and achievements are known to all who are interested in the rubber industry. Thirty years ago the company was still in its infancy, while it is numbered at the present time among the largest rubber manufacturing concerns in the world.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED JULY 6, 1909.

- N**O. 929,37. Pneumatic inflating device for tires. J. L. Marmand, Worcester, Mass.
- 929,84. Vehicle wheel. [With elastic tire.] J. W. Thompson, Miami, Fla.
- 929,80. Vehicle wheel. [With elastic tire.] J. Simnett, Philadelphia.
- 929,699. Vehicle tire. [Solid rubber, with special means of attachment.] B. C. Samelhart, Akron, Ohio.
- 929,606. Tire. [Segmental, in solid blocks.] C. L. Schwarz, Philadelphia, Pa.
- 929,522. Vehicle tire. [Pneumatic.] J. G. Cramer, East Orange, N. J.
- 929,490. Piston packing. G. R. Thompson, assignor to Martha Thompson, both of Republic, Mich.
- 929,384. Tire adjuster. A. A. Long, assignor to Long & Mann Co., all of Rochester, N. Y.
- 929,396. Means for securing the tires of automobiles and other vehicles. A. J. Michelin, Clermont-Ferrand, France.
- 929,282. Rubber over-shoe and fastening device therefor. L. Reed, Lambertville, N. J.
- 929,287. Process for making rubber footwear. F. A. Saunders, South Bend, Ind.
- 929,068. Pressure gage for pneumatic tires. C. R. Twitchell, Los Angeles, Cal.
- 929,004. Tire filling compound. F. M. Willett, Indianapolis, Ind.
- 929,336. Hose connector. J. S. Dummer, Carleton, Pa.
- 929,355. Tire. K. Karlstrom. [A metallic band is embedded in the solid rubber portion.] G. Holmqvist, Buffalo, N. Y.
- 929,376. Nozzle for hose. E. Nelson, Jersey City, N. J.
- 929,388. Hose coupling. F. Watkins, Cleveland and I. H. Miller, Elyria, O.
- 929,419. Hose rack. A. Jones, Los Angeles, Cal.
- 929,447. Tire arm. W. J. Belyea, Port Huron, Mich.

ISSUED JULY 13, 1909.

- 929,477. Tire. [For motor cars; solid rubber, rendered more resilient by a plurality of transverse openings.] J. C. Barker, Leeds, England.
- 929,578. Elastic tread vehicle wheel. J. Murrey, Cleveland, Ohio.
- 929,621. Hose rack. R. D. Wirt, Philadelphia.
- 929,624. Hose rack. *Same*.
- 929,676. Vehicle tire. [Solid rubber, with springs between the same and the rim.] D. Ballard, Philadelphia.
- 929,687. Vehicle wheel rim. E. C. Shaw, Akron, Ohio, assignor to The R. I. Goodrich Co.
- 929,787. Tire protector. [Cham, or square metal plates, for pneumatics.] W. Green, Harvey, Ill.
- 929,792. Pneumatic tire and clamping means. H. M. Hartman, assignor of one-half to O. P. Hanson, both of Minneapolis, Minn.
- 929,891. Vehicle wheel. [With spring spokes and elastic tire.] L. S. Stancliff, Berkeley, Cal.
- 929,980. Tire protector. [Combination of curved metal plates.] C. E. Kimball, Council Bluffs, Iowa.
- 929,999. Repair device for tires. O. C. Reach, Denver, Colo.

Trade Marks.

- 929,800. Empire Automobile Tire Co., Trenton, N. J. The word *Empire* within the representation of a crown. For rubber tires.
- 929,900. E. H. Backlund, Yonkers, N. Y. The word *Bakelite*. For condensation products of phenol and formaldehyde. [The material Bakelite has been suggested as a substitute for hard rubber.]

ISSUED JULY 20, 1909.

- 929,817. Hose coupling. J. P. Baird, Detroit, Mich.
- 929,334. Pneumatic tire. R. J. Ruths, Baltimore, Md.
- 929,411. Valve for pneumatic tires. G. De Vigne, Cheltenham, England.
- 929,433. Pneumatic tire armor. C. E. Evans, Council Bluffs, Iowa.
- 929,520. Anti-vibration device for vehicles of any kind. [India-rubber is inserted between the body and the under frame of a car.] G. Huysmans, Brussels, Belgium.
- 929,533. Signal for pneumatic tires. [The device includes an inflatable bulb and a whistle to indicate when a tire is punctured.] S. Silverman and J. E. Traham, Watertown, N. Y.
- 929,536. Belt fastener. G. H. Smith, Easton, Pa., assignor to Acme Belting Co., N. J.
- 929,601. Vehicle cushion wheel. F. Groff, St. Johnsville, N. Y.
- 929,611. Vehicle tire. [Clincher type; with special rim.] W. A. Koneman, Cudahy, Wis.
- 929,678. Gutter or patch for repairing pneumatic tires. H. Marles, Manor Park, England.
- 929,748. Rubber spading boot. [Strengthened by means of a sub sole.] S. V. Van Denburgh and J. H. Glismann, Syracuse, N. Y.
- 929,731. Vehicle tire. [Pneumatic.] M. Behner, New York city.
- 929,797. Hose connection for wheel tires, etc. E. J. Rohrbacher, Blaine, Wash.
- 929,840. Belt fastener. R. M. Bennett, Indianapolis, Ind.
- 929,868. Non-skid tire. J. Kempshall, London, England, assignor to Kempshall Tire Co., of Europe, Limited.

ISSUED JULY 27, 1909.

- 929,436. Spring bed shoe. J. C. Ivory, Delxville, Cal.
- 929,603. Cover for pneumatic and like tires. H. W. Cave Brown-Cave, London, England.

- 929,203. Tire shield. J. H. Fletcher, Seattle, Wash.
- 929,208. Wheel. [With means of excluding moisture and dirt from between felloe and elastic tire.] L. J. Goodspeed, Rockford, Ill.
- 929,234. Wheel. [With detachable rim for pneumatic tire.] F. R. Mather, Whitesville, N. Y.
- 929,255. Tire fluid container. C. E. Singleton, Brooklyn, N. Y.
- 929,351. Pneumatic tire. P. I. Viel, Paris, France.
- 929,418. Tire. [With resilient core.] G. H. Gillette, New York city.
- 929,437. Vehicle wheel. [With detachable rim for pneumatic tire.] W. L. Howard, Trenton, N. J.
- 929,501. Rubber stamp device. H. Schmidt, Elizabeth, N. J., and L. Heissenberger, New York city.
- 929,570. Spring wheel. [With elastic tire.] C. L. Driefer, San Francisco.
- 929,571. Valve for pneumatic tires. E. Dubied, assignor to Edouard Dubied & Cie., Couvet, Switzerland.
- 929,572. Spring wheel. [With elastic tire.] W. Eckert, Northwood, Iowa.
- 929,617. Rubber tire setter. [For solid rubber tires.] C. A. Maynard, assignor to Maynard Rubber Corporation, Springfield, Mass.
- 929,620. Tire. [Composed of disks of rubber ranged on a split ring.] G. E. Miller, Newton Center, and C. M. Wheaton, Newtonville, Mass.; said Wheaton assignor to said Miller.
- 929,632. Tire tread. [Having a multitude of air chambers formed within and thereon.] J. R. Sanford and J. G. Doughty, assignors to the Flexible Rubber Goods Co., all of Winsted, Conn.

Trade Marks.

- 929,558. The American Vitalizing Co., Oakland, Cal. The letters *K E G*. A preparation of oils for softening leather and rubber.

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1908.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL JULY 7, 1909.]

- 5,279 (1908). Composition for electrical insulation, for waterproofing, or for addition to india-rubber and gutta-percha. E. S. Ali-Cohen, Singapore.
- 5,308 (1908). Rubber tire surrounding a metal band. A. Bom and J. Lamed, Amsterdam.
- 5,368 (1908). Pneumatic tire with protected non-skid cover. A. T. Parker, Chorley, Lancs.
- 5,584 (1908). Pneumatic tire in dual or triple form, resting on a pneumatic cushion. E. J. Michelin, Clermont-Ferrand, France.
- 5,637 (1908). Rubber tire enclosing helical spring. G. A. Ritson, Manchester.
- 5,756 (1908). Wheel provided with two or more pneumatic tires carried on detachable rims. E. E. Michelin, Clermont-Ferrand, France.
- 5,847 (1908). Spring wheels with elastic tread and interior rubber cushion. Soc. Anon. des Automobiles E. Brillé, Paris, France.
- 5,868 (1908). Rolls of a macerating, sheeting, or "crepe" machine internally heated by steam for preparing crude india-rubber in order to dispense with the vacuum dryer. F. R. Durham, London.
- 5,874 (1908). Solid rubber tire rendered more resilient by means of transverse perforations. J. V. F. A. Yberty and E. B. Merigoux, Paris.
- 5,875 (1908). Perforated sectional rubber tire vulcanized to metal plates. *Same*.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL JULY 14, 1909.]

- 5,956 (1908). Fabric insertion for pneumatic tire covers, comprising one length of bias fabric wound spirally in a circumferential direction to give the required number of layers. Vereinigte Berlin-Frankfurter Gummiwaren Fabriken, Gelnhausen, Germany.
- 6,071 (1908). Pneumatic tire with protective metal disc. A. F. Brewster, London.
- 6,185 (1908). Pneumatic tire with puncture preventing band. L. Greenwald, S. B. Nye, and W. F. McHugh, Buffalo, New York.
- 6,327 (1908). Clamps and expanding mandrel for use in the repair and manufacture of rubber tires. R. Davis, Riddulph, near Congleton.
- 6,457 (1908). Rim for pneumatic tires with detachable flange. A. H. Culley, London.
- 6,459 (1908). Dress shield. A. Ginzburg and I. B. Klemett Rubber Co., New York City.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL JULY 21, 1909.]

- 6,530 (1908). Bolt to allow the removal of an air tube without disturbing the security bolt. Michelin et Cie., Clermont-Ferrand, France.
- *6,542 (1908). Combined surgical syringe and hot water bag. C. P. Leyner, Boston, Massachusetts.
- 6,545 (1908). Elastic tire formed of strips superposed radially and containing india-rubber or tow with gelatinous binding. A. Umlauf and K. Bohm, Vienna, Austria.
- 6,570 (1908). Tires in section of cork or rubber or both separated by metal bands. H. A. Yates, London.
- 6,927 (1908). Non slipping tire tread. J. L. Lemoine, Paris, France.
- 6,956 (1908). Tire fabric. J. van Gheluwe, Ghent, Belgium.
- 6,982 (1908). Solid rubber tire. W. H. Bader, Hulme, Lancs.
- 7,031 (1908). Sleeve of waterproof coat provided with flap to prevent the penetration of rain. R. A. Bradbury, Christchurch, New Zealand.

- 7,442 (1908). India-rubber hand stamp for printing in more than one color. F. M. Richmond and two others, London.
- 7,444 (1908). Pneumatic tire with studded tread. J. H. Messenger, London.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 28, 1909.]
- 7,465 (1908). Pneumatic tire with a wire ring for the edges. G. Spencer and E. L. Curbishley, Manchester.
- 7,466 (1908). Golf ball with core wound rubber thread and cover of india-rubber. P. H. Haddleton, London.
- 7,469 (1908). Spring wheel with rubber tire. P. E. Lefevre, Plaine St. Denis (Seine), France.
- 7,473 (1908). Puncture preventing band for pneumatic tire. H. W. Pickering, Porte Hamlet, Norwich.
- 7,494 (1908). Non skid band for pneumatic tires. T. M. Cahill and E. G. L. Peraux, London.
- 7,555 (1908). Detachable rim for rubber tires adaptable to a disc wheel. H. Perrins, Smethwick.
- 7,499 (1908). Puncture preventing band for tire covers. A. Gower, London.

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

- 399,104 (Feb. 6, 1909). V. E. Belledin. Soft rubber tire.
- 399,192 (Feb. 6). T. Gare. Process for making goods from waste rubber.
- 399,209 (April 15, 1908). Société Générale à Pneumatique. Pneumatic tire cover.
- 399,222 (April 16, 1908). P. Joliot. Puncture proof tire.
- 399,223 (April 16, 1908). P. Joliot. Tire inflatable with gas.
- 399,224 (April 16, 1908). P. Joliot. Pneumatic tire with multiple air chambers.
- 399,233 (Feb. 1, 1909). P. Landais. Pneumatic tire.
- 399,338 (Dec. 12, 1908). G. Huysmans. Shock absorber for vehicles.
- 399,341 (Jan. 5, 1909). J. Blum and A. W. Carpentier. Manufacture of artificial Para rubber.
- 399,509 (Jan. 28), Durochat, Millon and Vollet-Bert. Elastic tissue.
- 399,522 (Feb. 15). L. P. Lanstred. Elastic tire.
- 399,543 (Feb. 16). J. C. Berry. Tire protector.
- 399,615 (Feb. 18). J. Spyker. Improvement in elastic tires.
- 399,654 (Feb. 19). Société Générale des Etablissements Bergounan. Demountable wheel rim.
- 399,549 (Feb. 16). A. Bine. Demountable horseshoe.
- 399,459 (Feb. 12). F. Boegel and A. Kiander. Process for obtaining pure caoutchouc.
- 399,613 (Feb. 18). O. C. Immisch. Process for the manufacture of ebonite and vulcanite.
- 399,614 (Feb. 18). O. C. Immisch. Manufacture of objects in ebonite and vulcanite.
- 399,446 (Feb. 13). J. O'Brien. Apparatus for making heels for boots.
- 399,761 (Feb. 8). F. F. Kerr. Pneumatic tire.
- 399,773 (May 2, 1908). Société Hirtz, Michel Levy & Bloch. Protective device for pneumatic tires.
- 399,714 (Jan. 26, 1909). L. E. Jannin. Manufacture of insulated wire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villier, Paris, at 50 cents each, postpaid.]

CEYLON.

[SEALED UNDER "THE INVENTIONS ORDINANCE, 1906."]

1086. Alexander Cameron and David Stuart Cameron. Improvements in tapping and incising tools for rubber and other latex-bearing trees. May 6, 1909.
1071. John Blum, Brussels, Belgium, and A. W. Carpenter, London. Improvements in and relating to the manufacture of artificial rubber. May 30, 1909.
1012. Thomas Cockerill, Colombo. Improvements in apparatus for the extraction of india-rubber from latex by electricity. June 15, 1909.
1063. Charles Northway, Elpitia, Ceylon. Artificial channels for conveying latex from trees. June 16, 1909.

BATHING WITH MOTOR TIRES.

[FROM "THE NEW YORK TIMES."]

A NEW bathing fashion has been started at Ostend by a chauffeur who, dressed in scarlet and with a Phrygian cap, entered the sea with the inflated inner tube of a motor car tire. First he trundled it as a child does a hoop. Then sitting on it as in a life buoy, he paddled about, propelling himself with his hands or lay basking in the sun. His enjoyment was so manifest that in joke a party of women swimmers borrowed the tire and, with shrieks of laughter, imitated his antics. The idea has taken and scores of persons now disport themselves in the sea on the tubes of their motor cars. Impromptu races attract many competitors, and not to take a tube sun bath is to be out of the mode.

[FROM "THE NEW YORK EVENING JOURNAL."]

A PRETTY young guest at the Hotel Nassau, Long Beach, is

responsible for a new fad which became immediately popular after her introduction of it at that beach resort, and has now spread to several of the beaches along the Jersey coast. This fad is bathing with the aid of the inner tube of an automobile tire.

The lady heard of the fad from a friend abroad who saw it first at Ostend. A chauffeur started it there. It consists in using the rubber tube, inflated, as a kind of life preserver and seat combined, with which it is possible to float about on and over the combers as they roll shoreward.

The practice has become so popular that now along the shore at Long Beach any day during the bathing hour young men and women may be seen floating about atop these automobile tires, mounting and descending the huge waves and having a vociferously good time generally.

NOTES ON A VISIT TO AMERICA.

BY PHILIP SCHIDROWITZ, PH. D.

DURING a recent visit to America I had the privilege of seeing a number of leading factories and also some of the chief government institutions. I was much struck by the cordial and open manner with which I was received in the various works and by the ready permission granted to inspect practically anything that I wished to see. It was impossible not to contrast the American methods in this regard with the ultra-conservatism displayed in so many of the European works. Naturally, however, most of that which was of particular interest, I must regard as "not for publication," or I should be making a poor return for the great courtesy displayed. There are a few points on which it will not be amiss, I believe, to make some comments.

Raw Material.—I was astonished at the apparently very large quantity of guayule employed in the American works. Most of it seems to be in semi-purified loaves, containing 20 to 30 per cent. of resin. There is also a commercial article purified to 2 to 3 per cent. of resin, but I did not come across much of this. It will be of interest to people on this side to know that rubber manufacturers in the United States are very favorably inclined to the better qualities of clean plantation rubbers or to rubbers prepared on the plantation system. I came across a good deal of Ceylon and Malay *Hevea* and also some fine *Funtumia* from Uganda, which were all well liked. A complaint was made regarding some of the Eastern rubbers which I think deserves the attention of planting companies, and it was that frequently numerous bits of bark, twigs, etc., are found between the biscuits, crêpe and sheet. This involves washing, which operation, for this class of raw material, should be quite unnecessary. I need scarcely say that I am not referring to "bark scrap." What is required is a little more care in packing. American manufacturers, like their English colleagues, are very emphatic on the point that planters should mark all their goods in some simple fashion, as this enables the manufacturer to know exactly what he is buying—a matter, in view of the considerable differences between various plantation rubbers, of some importance to him. Certainly there is a very large field in the United States for the plantation product.

Finished Goods.—For obvious reasons, I cannot refer to details of manufacture, but speaking generally, I think I may say that there is a tendency on the part of the American manufacturer to work for greater mechanical strength than is general on this side. The reason, I believe, is that "tensile" tests in contracts are much more common than in Europe.

In conclusion of these brief notes, I should be glad of the opportunity of expressing my thanks to the various manufacturers, officials and others in America for their great courtesy and hospitality to me during my stay.—*The India-Rubber Journal* (London).

India-Rubber in Aerial Navigation.

WHAT has been said so often of india-rubber as a necessity in connection with the automobile seems liable to be repeated, and with good reason, in connection with dirigible balloons and flying machines. *The India-Rubber Journal* says:

"It is not astonishing to learn that ubiquitous rubber is an important feature in the coming vehicles. The cloth for airships, balloons, or aéroplanes, is proofed with rubber, while the machine with which M. Blériot flew over the English channel was equipped with a long india-rubber cylinder filled with air, which would have acted as a float had the aéroplane fallen into the water. The wheels of the machine were fitted with pneumatic tires, and there were other rubber fittings used in the machine, so that the demand for rubber is likely to survive even if airships take the place of land or water carriages."

There is now in progress at Frankfort-on-the-Main the Internationale Luftschiffahrt-Ausstellung (International Airship Exhibition), not the least interesting feature of which consists of exhibits of rubber proofed fabrics for the various machines which have been designed for aviation. The notes which follow, in reference to the more notable exhibits at Frankfort, are presented here with apologies to the *Gummi-Zeitung*.

* * *

THE Continental- Caoutouc- und Guttapercha-Compagnie (Hanover) has an exhibit of "Continental" balloon and aéroplane fabrics which is most tastefully arranged. "By means of enormous photographs the company show airships constructed of Continental fabrics. There are a good many of them, since the Continental balloon fabric has been used for the construction of nearly all the airships in the world. The Continental balloon and aéroplane fabric is also frequently represented, even in the case of the balloon Preussen, with a gas capacity of 8,400 cubic meters [= 296,654 cubic feet], which although about 12 years old, does not show the slightest defect, and is still being used for making ascensions. This balloon attained, as early as 1901, the record height of 10,500 meters [= 34,449 feet]. The collection of various kinds of balloon, aéroplane and airship fabrics manufactured by the Continental company is exhibited in a most comprehensive manner."

* * *

THE most conspicuous object of the exhibit of the Vereinigte Gummiwaaren-Fabriken Harburg-Wien is a new spherical balloon of 945 cubic meters capacity, constructed of diagonally lined cotton fabric, with complete equipment. In consequence of its nice, attractive appearance, this balloon found a purchaser as soon as exhibited, and, as it has already been definitely sold, the manufacturers are compelled to have a new balloon constructed for the exposition. A novel feature of the company's exhibit consists in a valve for free balloons. In this valve the joints of the hinges which connect the valve disc with the upper valve ring or hoop, are provided with springs, these springs being the main feature of the device, inasmuch as they insure absolutely reliable operation, since the valve disc must necessarily always return to the same position. The valve is made tight by means of a folded rubber band, tapering towards the top, which presses against a rubber membrane. Applications for patents on this valve have been filed.

In addition to a number of samples of fabrics for free balloons and power balloons, as well as of aéroplane fabrics, the company also exhibits a raincoat especially adapted to the requirements of aeronauts. The reason for providing this garment was the experience gained during a balloon trip made recently from Cologne in rainy weather, during which the aeronauts got a most thorough wetting. The material used for the garment has a thick

rubber coating in the outside, so as to prevent it from absorbing any water, even during the most severe rain storms. The coat has only one opening, the same being at the neck, and a special flap made of rubber cloth and attached to the coat under the opening, prevents water from entering through the same. The coat is provided with a hood for protecting the head. For protecting the feet, the company likewise make rubber cloth boots reaching up to the knees, and sufficiently large for putting them on while wearing common shoes or boots. Various other articles of minor importance will also attract the visitor's attention. The covering of the model balloon exhibited by the Rheinisch-Westfälische Motorluftschiff-Gesellschaft as well as that of the large power balloon, now nearly completed, were likewise made by the Vereinigte Gummiwaaren-Fabriken Harburg-Wien.

The Mitteldeutsche Gummiwarenfabrik, Louis Peter, A.-G., of Frankfort o/Main, are exhibiting a spherical balloon, as well as supplies for balloon manufacturers.

* * *

THE Aktiengesellschaft Metzeler & Co., of Munich, has followed the plan of exhibiting only its achievements during a period of nearly 20 years in the manufacture of balloon fabrics. Its exhibit is consequently not made conspicuous by large decorative designs, but shows balloon fabrics exclusively. A large revolving stand, provided with 10 arms, carries a corresponding number of samples of various balloon and aéroplane fabrics, comprising one, two and three ply fabrics with and without outside rubber coating. The concern shows fabrics for ordinary balloons, airships of the rigid, semi-rigid, and non-rigid types, as well as fabrics for the wings of flying machines. It is a well-known fact that the Metzeler concern has supplied the fabric for numerous balloons; no less than 15 balloons constructed of Metzeler balloon fabric having taken part in the Gordon Bennett aéro contest in 1908. The airship "Parseval I," and part of the airship "Zeppelin II," are likewise constructed of the same material. Balloons made of Metzeler balloon fabric have, moreover, gained numerous victories. The balloon "Pomern," for instance, which was awarded the Gordon Bennett prize in 1907, has become widely known. During the current year balloons constructed of Metzeler balloon fabrics were again successful. The balloons "Hildebrandt" and "Schlesien" came out victorious in the preliminary contest for this year's Gordon Bennett aéro contest, and were awarded first and second prizes. At the international balloon race held in Cologne on June 29, two first prizes were awarded to balloons constructed of Metzeler fabric. A number of photographs exhibited by the concern, and showing interesting incidents of balloon ascensions and landings, proved very attractive to the visitors, and the entire exhibit makes the impression that the company's earnest efforts have been crowned with most satisfactory success, and that the concern will undoubtedly take its place among the foremost manufacturers of balloon fabrics.

* * *

THE Rheinische Gummiwarenfabrik Franz Clouth, Köln, have sold to the "Ila" a completely equipped free balloon of 900 cubic meters capacity. Yellow coloring has hitherto been used for protecting the rubber against decomposition by the action of the sun rays, because it reflects the largest number of rays. More recent investigations, however, make it appear probable that the same purpose may be attained, even more effectively, by using red coloring. Neither does it appear improbable that red colored balloons will stand out less conspicuously against the background of the sky than yellow colored balloons, a factor which is of importance from a military standpoint, because it would make effective shooting at balloons more difficult. In the spring of the current year a balloon caught fire in

Berlin when the valve opened during an ascension. The question whether the ignition of the gas is to be attributed to the use of metal parts on the valves, still remains unsolved, although there is undoubtedly a possibility that the use of wooden valves would obviate the danger of ignition. The Clouth concern has constructed such a valve, in which there is absolutely no metal part. The very numerous endurance and distance contests held during the past few years, in which such exceedingly high time records as 72 hours, for instance, were made, have been the means of gathering a good deal of experience in regard to the question of making the most practical use of the limited space in the basket or car, so to make it as comfortable as possible for the aeronauts. The providing of such comfort is the only means for preserving their physical strength and keeping them in condition for withstanding the severe strain and exertion. The basket or car manufactured by the Clouth concern not only provides comfortable seats, but also a cot on which the aeronauts can lie at full length. Moreover, the basket or car wall required for this arrangement has been so constructed that the strength of the car or basket itself remains practically impaired, and that it appears well able to withstand the shock of landing even under the most unfavorable circumstances.

* * *

"In all manufacturing lines in which sewing machines are used, the Singer machines are in the front rank, and this likewise applies to balloon sewing. The styles used for this purpose, viz.: flat and post machines with one or several needles, adapted for sewing simultaneously several parallel lockstitch seams, have proved their efficiency for this kind of work for a number of years past. For sewing widths of fabrics with adhesive surface, these sewing machines are furnished on request with alternating presser foot. The Singer Company Nähmaschinen A.G., of Frankfurt-on-Main, are exhibiting several of these machines. In this connection we would express our surprise at the fact that no German sewing machine manufacturer has had sufficient foresight to exhibit such machines at this exposition, although Germany boasts of a considerable number of sewing machine works manufacturing special machines for all trades."

INTERNATIONAL AIRSHIP TESTS.

THE historic French city of Rheims was the arena, during the last week in August, of the most important series of contests in the history of aeronautics. Forty-four machines—monoplanes and biplanes—were entered for seven different contests, by representatives of five nations. Neither of the Wright brothers participated, but five of their biplanes were at Rheims, operated by their pupils or persons who had purchased the machines. The United States were further represented by the Herring-Curtiss biplane. Louis Blériot, the Frenchman who recently sailed over the English Channel in his monoplane, was an entrant in contest for the valuable *coupe internationale d'aviation*, scheduled for August 28. Besides the expensive trophies, cash prizes aggregating 400,000 francs [= \$77,200] were offered. According to a recent announcement of the Aéro Club of France, all the contestants at the Rheims meeting were entitled at the same time to compete for the Michelin distance prize of 20,000 francs [= \$3,860], which last winter was won by Wilbur Wright, an American, in a flight of 76.38 miles. This is a prize to be given annually for eight years to the aviator making the greatest distance during the year. The results were not available in time for publication in this issue.

AIRSHIP PATENT LITIGATION.

THE latest indication of the advent of the aeroplane as a practical invention is indicated by the beginnings of litigation over patents between rival inventors. The Wright brothers

have filed a suit in the United States circuit court at Buffalo, New York, against Glen H. Curtiss and the Herring-Curtiss Aeronautic Co., of Hammondsport, N.Y., alleging infringement of patents. The Wrights have also filed a suit in New York city against the Aeronautic Society.

"As an answer to their suit," said A. M. Herring, president of the Herring-Curtiss company, in a New York *Herald* interview, "we are doubling the capacity of our works at Hammondsport, and now have 120 men working day and night on aeroplanes alone."

It is reported that Monsieur Blériot has obtained a monopoly in France of the type of motor in his flight over the English channel, and possibly litigation will result. M. Blériot is mentioned as having made a fortune from patents on automobile attachments before becoming interested in aviation. The relation between aerial navigation and other forms of transportation is further suggested by the fact that Glenn H. Curtiss at one time made a world's record for motorcycle speed on a machine embodying a motor of his manufacture.

NEW TRADE PUBLICATIONS.

NEW JERSEY CAR SPRING AND RUBBER CO. (Jersey City) issue a pamphlet on Rubber Belting, designed to be of interest and service to all users of belting. There are general hints on the care of belting and for the choice of belts for various conditions of use, followed by descriptions of the various types made by this long-established company. The book contains a cut of what is described as the largest rubber belt ever made, as an indication of the capacity of the company's plant. [4½" x 6¾". 24 pages.]

THE HARTFORD RUBBER WORKS Co. (Hartford, Connecticut) issue a new booklet, "A Factory's Progress and Product," in which is described their various types of tires, treads, inner tubes, tire supplying machinery and the like, together with mats, horn bulbs, repair outfits and other accessories of automobilizing. [8¼" x 9". 28 pages.]

CENTRAL ELECTRIC Co. (Chicago) issue a price list and discount sheet applying to their 1909 Catalogue—No. 26. The company make a specialty of Okonite wires. It is noted that prices are advanced on rubber-covered wire. [6" x 9". 64 pages.]

SAKS & Co. (New York) issue a new edition of "Everything for the Autoist but the Auto." It is a handsome publication, appropriate for the setting off of a handsome line of motor clothing, including a number of items for men and women waterproofed with rubber. [5" x 9". 117 pages.]

THERMOID RUBBER Co. (Trenton, New Jersey) issue a booklet describing their "Thermoid" brake lining, followed by expressions favorable to this material from owners of automobiles of various types who have used it. [3½" x 6⅞". 8 pages.]

WERNER, PFLEIDERER & PERKINS, LIMITED (Petersborough, England), issue their catalogue No. 015 of Special Machinery for the Treatment of Rubber, Gutta-percha, Balata, Bitumen, Asbestos, Compounding Materials, etc., including the new patent "Universal" Washer. [11¼" x 9". 12 pages.]

THE BOOMER & BOSCHERT PRESS Co. (Syracuse, New York) issue a catalogue of their knuckle joint and screw presses, including their well-known line adapted to use in rubber factories. [5⅞" x 8¾". 110 pages.]

JOSEPH DIXON CRUCIBLE Co. (Jersey City, New Jersey) are sending out a booklet on "The Proper Care of Belts," with special reference to the use of graphite as a belt dressing. [3⅞" x 6¼". 24 pages.]

THE OHIO RUBBER Co. (Cleveland and Cincinnati) send a new catalogue of Buckeye Brand Waterproof Clothing for the trade of 1909-10, including mackintoshes, cravenettes and rubber surface clothing, slickers and oiled clothing. Among their specialties are automobile wearing apparel [5¼" x 7¾". 28 pages.]

Some Rubber Interests in Europe.

RUSSIAN-AMERICAN COMPANY PROFITS.

THE net profits of Gesellschaft Russisch-Amerikanischen Gummi-Manufaktur unter der Firma "Treugolnik" (Russian-American India-Rubber Co.) for the business year 1908 amounted to 5,845,860 rubles [= \$3,010,638], against 4,016,448 rubles in 1907 and 4,300,987 rubles in 1906. The dividends for the three years amounted to 26.25 per cent. in 1906, 25 per cent. in 1907, and 30 per cent. in 1908. The amount disbursed for dividends in 1908 was 2,400,000 rubles [= \$1,236,000]. The *Gummi-Zeitung* says: "The increase in the gross revenue, from 36,252,040 rubles in 1907 to 38,953,150 rubles in 1908, must apparently be principally attributed to a much more liberal credit system. The outstanding debts, which amounted at the end of 1907 to 4,587,432 rubles, represented at the end of 1908 a sum of 13,635,879 rubles, being therefore about three times as large as at the end of the preceding year, while the exchange account, amounting to 315,490 rubles in 1907, was increased to 30 times that amount within a single year, being 9,613,368 rubles at the end of 1908. The extension of the company's operations in this respect was only made possible by the fact that the capital stock was increased, shortly before the end of the book year 1908, from 8,000,000 to 18,000,000 rubles, face value. The supply of funds derived by the company from this source, amounted to 17,000,000 rubles."

PROFITS OF HUTCHINSON.

THE annual meeting of Etablissements Hutchinson — Cie. Nationale du Caoutchouc Souple was held on June 14. The report showed profits of 1,333,080 francs [= \$257,284.44], against 1,305,579 francs in the preceding year. With the carryover (27,847 francs) the amount disposable was 1,360,927 francs [= \$262,658.91]. The capital of the company consists of 1,463 shares of 10 per cent. preference stock and 18,537 ordinary shares—all of 300 francs [= \$57.90] each, and aggregating 6,000,000 francs. The dividends were 30 francs per share of the preference and 50 francs per share of the ordinary stock, the rate on the latter amounting to 16⅔ per cent. The dividends aggregated 927,740 francs [= \$179,053.82]. After the customary writing off for depreciation, legal reserves and compensation of the administration, the amount carried over was 9,452.89 francs. The 300 francs shares were quoted recently at 867 for the ordinary and 530 for the preference. The report covers the operation of the company's factories at Langlee (France) and Mannheim (Germany), both of which are devoted to the production of rubber footwear and tires. The rate of dividend has remained the same for six years, during which time 3,950,508 francs [= \$762,448.04] have been distributed to shareholders. Meanwhile the capital has increased from 4,000,200 to 6,000,000 francs.

JAMES ROBINSON—OBITUARY.

THE death of James Robinson is reported by *The India-Rubber Journal* as having occurred on July 3. He was born in July, 1850, and at various times was connected with several important rubber goods manufacturing companies. For a number of years he conducted the affairs of Broadhurst & Co., Limited, manufacturers of waterproof goods and mechanicals at Bradford, Manchester, until the company was reconstructed and came under the control of different directors. He was afterward connected with G. W. Laughton & Co., Limited, Manchester. The funeral on July 6 was attended by many friends, including numerous members of the rubber trade. Mr. Robinson at one time, as representative of Broadhurst & Co. in the India-Rubber Manufacturers' Association, was a member of the general committee of that body, and for a year was vice chairman. He was for quite a while a

member of the Manchester city council. He was also a prominent member of the Masonic fraternity.

NEW BRITISH COMPANIES REGISTERED.

THE Consolidated Rubber Co., Limited, registered July 5, 1909, with £164,000 [= \$798,106] capital. The object is to take on the manufacture of Heinemann's "synthetic rubber," as reported in the last INDIA RUBBER WORLD.

Gavan Inrig, Limited, registered July 6, 1909, with £2,000 [= \$9,733] capital, to acquire the business of G. Inrig, of London, and work the patents granted to him for continental Europe, the United States, and Canada, and carry on the business of manufacturing rubber substitutes and insulating materials.

Progressive Rubber Co., Limited, registered July 7, 1909, with £10,000 [= 48,665] capital. To acquire licenses to manufacture under certain patents from the Rubber Patents, Limited, and to arrange with A. G. Spalding & Brothers for the manufacture of sporting goods, rubber heels, tires, and the like. [For a report on the business of Messrs. Spalding & Brothers (an American company) in England see THE INDIA RUBBER WORLD, January 1, 1908 page 127.]

Segment Motor Rim Co., registered July 30, 1909, with £25,000 [= \$121,662.50] capital. To acquire the benefit of certain existing inventions referred to in an agreement with J. W. Hall and C. Baynes.

Star Band Syndicate, Limited, registered July 6, 1909, with £550 [= \$2,676.57] capital. To acquire certain patents relating to non slipping tire treads from C. H. Stotesbury and T. P. Reid, and turn them to account.

Roussillon Tyres and International Rubber Co., Limited, registered July 6, 1909, with £200,000 [= \$973,300] capital. To arrange with P. Roussillon for the purchase of a French tire patent and with G. Filleul-Brohy for French patents on a tire machine and to manufacture tires. Registered offices: Finsbury house, Blomfield street, E. C., London.

LABOR SITUATION IN SWEDEN.

THE wage scale agreement between the Helsingborgs Gummi-fabrik and its workmen expired on July 1. The works were, however, closed previous to that date, on June 24, for necessary repairs. The negotiations resulted in the reopening of the works on July 14, but at the noon hour of the same day the men quit work, stating that their delegates and the negotiating committee had closed the new agreement on terms of which they were unable to approve. Peace was nevertheless made very quickly, inasmuch as the workmen decided on July 20 to return to work on the terms of the old agreement.

ITALY.

"THE enormous advance in the prices of crude rubber has compelled the Italian rubber goods manufacturers to raise their selling prices considerably, the advance amounting in some cases to as much as 30 per cent.," says the *Gummi-Zeitung*. Moreover, firm offers are being made only for prompt acceptance—i. e., for acceptance by return mail. Selling prices fluctuate from day to day, but always in an upward direction in accordance with the crude rubber quotations.

AUSTRIA.

THE Austrian rubber goods manufacturers have yielded to the peremptory demands of the market, by announcing for the present an advance of 10 per cent. in their selling prices. This advance has been in force since July 1, in the form of an addition to the total amounts of all invoices. The circular jointly sent out by all the manufacturers provides for a future definite settlement of prices.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

A FEW months ago I referred to this topic in connection with a new advertisement showing the advantages of buying low-grade rubbers, washed or semi-washed. Though the name does not appear in the advertisement, I understand that the Murac Syndicate is running the new business.

RUBBER WASHING FOR THE TRADE.

In my previous comments I referred to the conservatism of the average rubber manufacturer who likes to see his high-grade rubbers in the rough, so to speak, so as to be certain of their identity. How far this desideratum will effect the fortunes of the latest venture I do not care to predict, but that it will not prove entirely fatal seems clear from the success that has followed a similar business founded a few years ago. I refer to the rubber-washing works carried on by Eyre & Co. at the Meadow Mills, Greenfield, Holywell, North Wales, of which W. J. Eyre is the controlling spirit. Mr. Eyre has had over fifty years' connection with the rubber trade, mainly in the branch of raw rubber and rubber brokerage, and a good many years ago he started purifying low grade and in some cases undesirable rubbers, so as to render them more attractive to the manufacturer. Six years ago, owing to the extension of the business, it was mostly transferred from Liverpool to Holywell, the premises taken over being an old copper rolling mill. The rural surroundings of the mill are delightful, but its main business attraction is a large mill dam, 25 feet deep and a water wheel of 45 feet diameter. This wheel actuates all the washing rolls and other machinery at a total yearly cost of the oil for its lubrication. Owing to the extension of the business new washing rolls are shortly to be installed, to be driven by the same wheel. Fine rubber is not washed, the bulk of the work being done on low-grade, sandy and resinous rubbers. As a rule, the company buys the raw rubber in the market and sells it to the rubber works where washed, though in some cases the manufacturers send their rubber to be washed on terms. The drying chambers are heated by steam pipes, a current of hot air being also used.

ACCORDING to the statements made at the third annual meeting, held on July 9, in London, the outlook is not yet as bright as the shareholders wish. Inter-tribal warfare appears to be answerable for a lower yield of rubber than was expected. From what Sir Harry Johnston said it seems that the indigenous *Funtumia elastica* has not taken at all well to plantation, and it has been discarded in favor of *Hevea*. Until the plantation of the latter comes into bearing the position of the Corporation clearly depends very largely upon the maintenance of the present high prices for raw rubber. With Pará at 3 shillings the native Liberian rubber can only find a market at prices which will be found unremunerative. Of course, there is this to be said for the future—it may be taken for granted that an improvement will be effected in the methods of preparation and that the very objectionable smell which has militated against the use of this rubber in the past will not be so conspicuous in the future.

LIBERIAN RUBBER CORPORATION.

I HAVE read with much interest the articles on this subject recently contributed to THE INDIA RUBBER WORLD by Mr. H. O. Chute. The general conclusion one comes to from the figures he has given is that the process will pay if about 3 shillings per pound can be obtained for the rubber, but he doesn't say anything about the quality of the rubber which has been deresinated. A good deal will also depend upon the rubber market.

DERESINATION OF INDIA-RUBBER.

I note that the solvents he suggests are methyl and ethyl acetates instead of acetone. Of course, the proposal to get pure rubber from Pontianak gum is by no means new. More than one plant for the purpose has been erected in England and abandoned for one reason or another. In case of the most important one, I understand, a market could not be obtained for the rubber, one reason being because of the poor quality of the deresinated rubber.

Pontianak is estimated to yield 10 per cent. of rubber, but analyses show it contains much less than 10 per cent. The material that comes to England is usually very wet, containing 50 or more per cent. of water. Moreover, the amount and quality of rubber varies considerably. At Liverpool there is a rooted objection to calling in the aid of chemical analysis in judging the value of Pontianak, but in buying for a deresinating plant, analysis would appear to be highly desirable.

What Mr. Chute says as to the difference between resin and rubber resins is by no means superfluous, as a good deal of ignorance seems to prevail on the point. The great physical difference between the resins found in various brands of rubber must also be matter for consideration in connection with the prospective use of deresinating plants. It is interesting to hear that some quantity of Pontianak resin has found appreciation in the varnish manufacture, though there is nothing attractive about the price. Nor is there any evidence that much larger quantities could be easily absorbed.

It is more than 25 years since efforts were made in England to find a market for the potato rubber, or Almeida rubber resins, but with entirely negative results. Altogether having regard to the abundance and low price of natural rosin or colophony, I quite agree with what Mr. Chute says as to the blank outlook for rubber resins as a source of profit. Details as to its chemistry are given but there is an absence of information as to the particular demand it is intended to meet.

Mr. Chute referred very casually to the deresination of gutta-percha in England. This has long been carried out on a large scale at the various submarine cable works and golf ball factories. The solvent most ordinarily used is light petroleum spirit. This so called hardening process is necessary for the manufacture, and the question of cost has not formed such an important item as would be the case in deresinating rubber to sell in the open market, though, of course, the plants are operated as economically as possible.

THE PRICE OF RUBBER.

ONE may be excused for further reference to this topic, as it is such an all-absorbing one at the present time. By the tone of the editorial in the July issue of THE INDIA RUBBER WORLD it is clear that the writer goes no further than the ordinary law of supply and demand to account for the great rise. Personally, I have no direct information to prove the contrary, but, as I said last month, other ideas are widely held. The other day I interviewed one of our most prominent rubber manufacturers on the situation, which he admitted was a very embarrassing one for the trade. His opinion was that the great rise in price was due to a "corner," and he said that there was nothing whatever in the trade demand for goods to warrant the rise. He scouted the idea of the increased use of the taxicab having anything to do with it. Of course, there is a somewhat new feature that the old-established British firms may possibly have overlooked or minimized, and that is the greatly increased demand from other countries, which of late years have become manufacturers. Leaving out of account America, which has, of course, largely increased its purchases, most of the

Continental factories are taking more, and then there is Japan, which is now manufacturing on quite a large scale. As long ago as last September I was told in the city that there was going to be a big "boom" in rubber shares, and though it was some time in coming, we have certainly got it at last, and half the people you meet are now discussing rubber shares. No doubt, as in the original Kaffir boom, a good many who go in at the high prices merely for a gamble will get bitten, a fact which, of course, says nothing for or against the stability of the various companies.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

FIRE destroyed one of the three main buildings of the plant of the Buckeye Rubber Co. here, on August 12. Mr. S. S. Miller, the general manager, believes that insurance adjusters will find that the loss exceeded \$100,000, and may have reached \$150,000. The fire was discovered in a room used to store tire fabric above the office, at 4 o'clock in the morning, by a night watchman. It is supposed to have originated from crossed wires. Before the city fire department could get its lines laid the flames had spread over the greater part of the interior. Large quantities of crude and partly compounded rubber, and also other raw materials stored in the building, were totally destroyed, constituting the greater part of the loss. The building was used for the offices, for the mill room, and for storage. Employés of the factory were immediately put to work to clear up the debris. Mr. Van H. Cartmell, of New York, president of the company, who came to Akron the day following the fire, says that the building will be rebuilt at once. A small mill room in another building will be used temporarily. C. W. Seiberling, vice president of the Goodyear Tire and Rubber Co., offered the use of the Goodyear mill room immediately after the fire. Mr. Miller says that the company will be able to continue manufacture without serious delay to orders.

The Buckeye Rubber Co. was incorporated in 1900, under the laws of New Jersey, to manufacture tires for the Consolidated Rubber Tire Co. (New York), whose products before that date were made for them at various rubber factories under contract. The loss occasioned by the fire is fully covered by insurance. The total insurance carried on the plant and stock was \$380,000.

A second fire broke out in the Buckeye factory three days later, on the morning of August 15. The source, like that of first blaze, was mysterious and incendiarism was suspected. It originated in the storage house adjoining one of the remaining factory buildings. Large quantities of crude rubber, Pontianak gum, and lumber were destroyed, as well as valuable patterns. Automatic fire doors prevented the spreading of the blaze to the engine room, and firemen kept the adjoining factory building from catching fire. The loss in the second disaster was estimated at \$20,000.

* * *

WHAT promises to be a development of great importance in the automobile world is the introduction of the tire-making machine. The B. F. Goodrich Co. and the Goodyear Tire and Rubber Co. are now making practical use of such machines for the manufacture of their best grades of pneumatics. The Goodrich machine was designed by the company's mechanical expert, John Gammeter. Mr. E. C. Shaw, general manager of the Goodrich works, said that 30 of these machines have been installed, each producing an average of 100 tires in a day of 21 hours. Each machine can be operated by "one and a fraction" men. By the old process of making tires by hand, a good workman could seldom average more than six tires in a day. The Goodyear company have six machines in operation, each operated by two men. An official of the company said that these machines are capable of making 160 tires each in a day of 24 hours.

The Akron Pneumatic Tire-Making Machine Co. was organized during the last month to manufacture and sell a tire-making machine designed by A. C. Squires and J. W. Meeker. The directors of the company are Charles A. Ley, president; James W. Meeker, secretary and manager; M. B. Kuhlke, vice president; E. T. Williams, and A. C. Squires. The capital stock is \$10,000. Several of the machines are now being built in an Akron machine shop.

* * *

THE Moore Architectural Engineering Co., of Akron, are preparing plans for three new buildings for the Faultless Rubber Co. at Ashland. They will cost more than \$100,000, and will increase the floor space of the factory more than 21,500 feet. The buildings will adjoin the present plant and will nearly double its capacity.

* * *

THE United Rubber Co. is the name of the reorganization of the Aladdin Rubber Co., of this city. The business is in practically the same hands as before, and the capital stock has been reduced from \$250,000 to \$200,000. The officers are: James Christy, president; J. W. Miller, vice president; Sidney Conner, secretary and treasurer, and William W. Wildman, general manager. The reclaiming plant at Barberton, Ohio, will be retained, and it is the intention of the directors to build a factory for the manufacture of mechanical rubber goods in the spring.

* * *

THE plants of The B. F. Goodrich Co., the Alkali Rubber Co., and the American Hard Rubber Co., were shut down all day August 7 on the occasion of the annual Goodrich picnic, which was held at Silver Lake, Ohio. The company gave away free tickets to 15,000 people for the outing. It was the largest ever held by the Goodrich. The Diamond plant was closed on July 24, when more than 8,000 persons were entertained by The Diamond Rubber Co. at Silver Lake.

* * *

THE remainder of the \$200,000 worth of capital stock of the Swinehart Clincher Tire and Rubber Company has been sold, and James A. Swinehart has sold a large part of his stock to William W. Wuchter, formerly superintendent of the Firestone Tire and Rubber Co.'s plant. Mr. Wuchter has succeeded J. A. Swinehart as general manager and replaces B. C. Swinehart as vice president. J. A. Swinehart will continue as president of the company, but will retire from active participation in the manufacture. He was due to sail for England August 29, it being his plan to devote his attention to the European interests of the company in that country and on the Continent. This will necessitate his removing his family abroad. At a directors' meeting held on August 23, the *personnel* of the board was almost entirely changed. All retired except J. A. Swinehart and J. O. Surbey, and five new men were elected—Frank B. Theiss, first vice president of the First National Bank of Akron; William Byrider, William W. Wuchter, Joseph Dangel, superintendent of the Akron plant of the American Hard Rubber Co., and R. A. May, all of Akron. C. O. Baughman will be retained as secretary and most of the old employés will be continued in their present positions. Work has already been started on the construction of an addition to the plant, made necessary by the increasing demand for the company's product. The directors are also considering the question of adding pneumatic tires to the output of the plant.

* * *

A RECENT rumor to the effect that the Aluminum Flake Co. was about to change hands arose from a proposition made by Cleveland persons, who, according to Mr. Frank Reifsnider, manager of the company, offered par for the stock as a part of a proposed reorganization scheme. Mr. Reifsnider said that the directors had decided not to take up the plan and would continue as heretofore. According to the manager's statement, the company has enjoyed prosperous business so far this year, hav-

ing nearly doubled its sales. Between January 1 and August 13, 984,768 pounds of aluminum flake were sold. Large shipments have recently been made to the company's agent in Germany, for distribution in Europe.

* * *

A SERIOUS threat against the life of Frank H. Mason, vice-president of The B. F. Goodrich Co., resulted in the arrest early in August of a negro named Earl Jackson, who had been working for Mr. Mason in his garage. Mr. Mason received two notes in which sums as high as \$2,000 were demanded with a threat against the recipient and his family.

* * *

OPERATIONS were started in the new plant of the Falls Rubber Co., at Cuyahoga Falls, Ohio, on Monday morning, August 16. The force at the start consisted of 30 men. The buildings in which the factory is located were formerly occupied by the Superior Rubber Co. Considerable new machinery has been purchased. The products will be automobile and bicycle tires and pressed horseshoe pads.

* * *

GOOD authority is claimed for a report to the effect that the International Harvester Co., who manufacture auto buggies and automobile runabouts in Akron, are planning to install a department in the Akron plant for the manufacture of solid and pneumatic tires. Akron officials of the company, however, give emphatic denial to the story.

* * *

AKRON rubber companies note with considerable gratification a decided increase in the demand for mechanical goods and the corresponding growth of activity in this department of rubber manufacture. In the B. F. Goodrich factory night forces have recently been put on in several of the departments for the manufacture of mechanical molded goods. The growing demand for this class of goods as distinguished from the perennial demand for automobile tires is taken by the manufacturers as an indication of a general activity, especially in sugar refining and in other industries in which rings, gaskets, hose, and other factory supplies made of rubber are needed.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

REPORTS heretofore regarding improvement in trade conditions have been colored more or less with suggestions showing that for the past two years the rubber business has been going along in a very quiet manner, with very little turn for the better during all that time. Now, however, there are unmistakable signs which indicate that the effects of the financial panic have entirely worn away and that the improvement in business is permanent and substantial. This is not only the case among the rubber establishments, but is true in all lines of business, and there is no longer any doubt that normal conditions are being restored and the merchants are on the verge of a prosperous season. It is true that the improvement during the past month has been but slight, in the face of the advanced prices on rubber, but it has been so general that there is no question of its genuineness.

* * *

A PLAN is on foot to reorganize the Mechanical Rubber Goods Association of the Pacific Coast, and a meeting of the rubber trade has been called to see what can be done about it. Before the fire of 1907, the members of this association, about once a month, met at informal luncheon or dinner, enjoying a social time and, after the repast, a discussion of matters of interest to their trade, with a view to abolishing common evils. During the period following the fire, when all of the rubber establishments were reorganizing their business, there was little time or use for an organization, but now a number of the dealers

think that it may serve a useful purpose, and some fourteen or fifteen houses have signified their willingness to reorganize. The object will be to correct abuses in regard to guarantees, ratings, terms and the like, but has nothing to do with prices. This association has nothing to do with the Construction Club, which is now being organized, and which a number of the rubber dealers have signified their intention of joining. The Construction Club intends to embrace among its members business men engaged in the lines of ordinary mechanical construction business, and so includes the rubber houses. It is purely a social club, and will be operated on the same plan as the Hardware Club of New York.

* * *

MR. R. H. PEASE, president of the Goodyear Rubber Co., has returned from a three weeks' trip to Portland, Seattle, and Spokane, and says that he found business, especially in Portland, much better than it has been for several years. Mr. R. H. Pease, Jr., drove up to Portland in his automobile, and returned with his father. "Our business in San Francisco," said Mr. Pease, "ran along quietly enough through July, but has been increasing this month, and we have more orders for later on than for several years at this time. The outlook is favorable, and as soon as the mills start up we look for a good mechanical business."

* * *

THE Bowers Rubber Works have just received their third large contract from the Isthmian Canal Commission for dredging sleeves, to be used on the Atlantic side. This firm's output is now being used on both the Atlantic and Pacific sides. Mr. Bowers gave his employes their second annual picnic during the month, which included all of the factory hands at Black Diamond. He chartered a boat, which was well filled, with 250 on board, the employes and some of their friends, and made a cruise up the river. Mr. Bowers furnished a band and lunch and everything necessary for a picnic, including prizes for the winning team of the two baseball teams from the factory.

* * *

MR. W. J. GORHAM, of the Gorham Rubber Co., will return from a fishing trip at about the end of this month, and then plans to make a trip to the East. Mr. Sargeant, manager of the firm, states that business is getting good, and that there is a tendency for a raise in prices in all lines.

MR. P. T. SPRAGUE, who works the water front with his rubber supplies, states that the handling of the fruit crop is creating great activity with the river boats on the bay, although just now there is little activity among the lumber schooners and the big deep-water vessels.

MR. A. H. GREGORY, manager of the local branch of the New York Belting and Packing Co., Limited, at No. 129 First street, states that for the first time in two years the dealers can say that there has been an actual and substantial turn for the better in the trade conditions.

THE Continental Tire Co., which has been temporarily located out on Van Ness avenue, will move down about September 1, and occupy quarters at No. 543 Market street.

THE Pacific Mill and Mine Co., on Mission street, near First, report that they are selling lots of belting and that business can be said to be fairly good.

MR. ALEXANDER, with the Plant Rubber and Supply Co., states that business is now very good, and that indications point to a prosperous season.

THE Revere Rubber Co. are moving into their new quarters, No. 543 Market street.

THE projected railway from La Paz, Bolivia, to the Pacific coast, for which a contract has been awarded to the firm of Sir John Jackson, Limited, of London, to cost \$15,000,000, will afford an additional outlet for a region rich in rubber.

SINGLE TUBE TIRES IN COURT AGAIN.

THE infringement suit, in relation to the Tillinghast tire patent, of The Single Tube Automobile and Bicycle Tire Co. v. Continental Rubber Works (Erie, Pennsylvania), pending since November, 1904, has resulted in a decision for the plaintiff, filed August 7 in the United States Circuit Court for the Western District of Pennsylvania, having been rendered by Judge Buffington.

The defense of the Continental company rested in part upon the publication by A. Boothroyd, in England, in December, 1890, of the idea of a single tube bicycle tire. But the court decided that, whereas the application of Pardon W. Tillinghast for a patent was a later date, "as early as July, 1890, Tillinghast had a clear conception of his pneumatic bicycle tube embodying the elements of his second claim," and that prior to September in the same year he had disclosed the same to credible witnesses. The merits of the Tillinghast claim have already been passed upon twice in the United States circuit courts in different jurisdictions, and Judge Buffington in the present case did not see his way clear to depart from the theory on which the preceding decisions were based. It was divulged that the Continental Rubber Works prior to the latest decision had made about 1,250,000 tires, and all of these, under the decision infringe the Tillinghast claim. As the royalty demanded by the complainant from its licensees is 5 per cent., with 15 cents per pair minimum, the amount of damages involved make a considerable sum. The Continental Rubber Works have given notice of their intention to file a sufficient bond and appeal from the decision. The patent in question expires May 23, 1910.

The patent in question is No. 497,971, and the language of the claim which is the basis of the present action:

2. A pneumatic tire, composed of a rubber tube, an intermediate layer of fabric, and an outer covering of rubber, substantially as described, having all its rubber joints and component parts simultaneously vulcanized together, forming an integral annular tire.

The history of the Tillinghast patent recalls the connection with it of Colonel Albert A. Pope, whose death during the past month is reported elsewhere in this paper. The Pope Manufacturing Co., then owning the Hartford Rubber Works, purchased the Tillinghast patent in 1905, with a view to using the "single tube" tire on their bicycles, and other manufacturers paid a royalty to Colonel Pope, the patent ultimately forming the basis of the present corporation, The Single Tube Automobile and Bicycle Co. The energy and capacity displayed by Colonel Pope in this connection, involving his development of the bicycle for popular use, and his propaganda for good roads—such as bicycles could be used on—justifies the assertion by *The Bicycling World* that "it gave us the pneumatic tires, now so necessary to physical comfort and well being." The other forms of pneumatic tires now popular came later; the idea is that the Tillinghast tire "blazed the way."

TIRES IN THE AMERICAN IMPORT TRADE.

THE advance in the rate on imports of india-rubber goods in the new American tariff act doubtless has been made in view of the extent of the trade in imported automobile tires. At one stage of the tariff discussion it was proposed to class tires as "parts of automobiles," under which head there have been attempts made to class them in the customs administration in the past [see THE INDIA RUBBER WORLD, April 1, 1909—page 256], but this proposal did not find favor. Finally, tires were

left without being specified, but it clearly was the idea of the Congress to lump them with rubber goods, the rate on which is advanced from 30 to 35 per cent. *ad valorem*.

Imports of rubber goods into the United States are classified only to a certain extent. Separate account has been taken of hard rubber goods, but these have not come in in largely increased quantities during 10 years. The average has been only about \$191,000 per year, and the arrivals in 1908 were only \$293,000. The total increase in the imports of rubber goods has been at a much higher rate, however, and it is to be noted that the increase has been most largely in imports from Germany and France, the countries supplying most of the rubber tires imported into the United States. In the table on this page is shown the total amount of imports of rubber goods for ten fiscal years (ending June 30), and the countries of origin. It will be seen, by the way, that the imports from France and Germany are declining at a greater rate than the total imports of rubber goods.

In connection with the table may be considered the value of rubber goods imported during the fiscal year ended June 30, 1909, which was only \$1,301,770. It is not possible yet to state whence the imports for this year came.

A BRAZILIAN VIEW OF RUBBER PRICES.

[FROM "THE BRAZILIAN REVIEW" (RIO), JULY 27.]

RUBBER prices have boomed up to 6s. 4d. per pound, a rate evidently too high to be long maintained, because it is certain to affect consumption and so reduce demand, apart from the action of speculation, which, with previous records already left far behind, cannot hope to push prices much higher, but has everything to gain by putting them down.

In fact, rubber prices, subject to the general relation of supply to demand, are controlled by a few big German, English, and American houses. Under the influence of the American crisis, prices were driven down from 5s. 2d. in January, 1907, to 2s. 3d. per pound on February, 1908. Then when the great houses bought up all the stock at ruinous rates the reaction set in that has carried prices back and over 6s. 4d., the highest ever known. It is impossible to believe that all this is the unaided result of increased consumption. Consumption was never bigger than at the beginning of 1907, previous to the American crisis, and yet prices fell steadily from 5s. 2d. in January to 4s. 4d. in July, before any crisis was heard of.

It would be equally difficult to believe that the present high prices are the result only of economic factors. In all probability, as soon as big holders have unloaded and see that nothing more is to be got by pushing prices high, they will unload and there will be a sharp decline. It would, therefore, be unwise, in our opinion, to count on the continuation of present prices.

A COMPARISON of the profits of cinchona culture with rubber growing is contributed by Charles Böhringer to *Der Tropenpflanzer*. Dealing with 32,000 acres devoted to cinchona, he figures out an average yield of 394 marks [= \$93.30] per acre. Again, dealing with the yield of a number of rubber plantations, he arrives at an average yield of 224 pounds per acre, which, at an average selling price of 10 marks per kilogram [= \$1.08 per pound], gives 1020 marks [= \$242.76] per acre. But very much better returns for rubber have been reported since Mr. Böhringer's article was written, while cinchona has remained at practically the same figures.

IMPORTS OF MANUFACTURES OF INDIA-RUBBER INTO THE UNITED STATES, WITH THE COUNTRIES OF ORIGIN, FOR TEN FISCAL YEARS, ENDING JUNE 30.

FROM.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.
France	\$81,862	\$68,500	\$121,217	\$116,850	\$129,632	\$167,911	\$332,250	\$7,002,76	\$825,390	\$519,480
Germany	106,161	163,942	182,442	107,608	308,551	427,917	827,452	0,000,086	1,028,746	737,278
Great Britain. .	178,788	291,647	150,007	113,589	132,768	117,709	115,208	1,437,98	193,468	333,543
Other	12,498	9,900	24,997	27,709	95,021	108,025	114,064	187,254	215,169	346,589
Total	\$378,209	\$564,988	\$478,663	\$449,756	\$665,972	\$821,562	\$1,189,064	\$1,692,113	\$2,262,782	\$1,959,599

News of the American Rubber Trade.

APSLEY RUBBER CO. BUSY.

THE Apsley Rubber Co. (Hudson, Massachusetts) were reported as working at full ticket, and not likely to shut down for inventory and repairs. The Hon. L. D. Apsley, president of the company, has been lately in the West, going as far as Seattle, where are the coast headquarters of the Rubber Manufacturing and Distributing Co., of which he is also president. The Rubber Manufacturing and Distributing Co. have organized a fine display at the Glove and Leather Market Fair, in Chicago.

STAMFORD INDUSTRIES.

THE *Daily Advocate* of Stamford, Connecticut, issued recently a triennial industrial edition which is not only a most creditable publication, but makes a good showing for the leading industries of Stamford. The rubber branch is represented by The Stamford Rubber Supply Co., manufacturers of rubber substitutes, and The Atlantic Insulated Wire and Cable Co. The Rutherford Wheel Co., manufacturers of steel wheels for automobiles, are also located in Stamford, and a considerable business is done in that city in automobile tires.

CONSUMERS' RUBBER CO. ENLARGING.

THE growth of business of the Consumers Rubber Co. (Bristol, Rhode Island) has led the proprietor, Mr. Terrence McCarty, to purchase additional ground adjacent to the property, on which he intends erecting a new building for factory purposes. The wire insulating plant is to be enlarged, with a view to meeting the demand for larger-sized insulated cables than have been made at this plant hitherto. The footwear factory has been producing 2,400 pairs daily of late.

WESTINGHOUSE ELECTRIC PROFITS.

THE annual report of the Westinghouse Electric and Manufacturing Co. for the year ended March 31, 1909, points out that the affairs of the company were taken out of the hands of the receivers December 5, 1908. Manufacturing operations were carried on under the receivership without cessation, though on a smaller scale. Gross earnings were \$20,606,592.04, against \$34,175,548 two years previous. The net manufacturing profits were \$650,783.53, and other income (from royalties, etc.) brought the total income to \$1,966,258.65. Deducting interest, and \$513,316.14 for depreciation of plant, there was, instead of a net income, a deficit of \$918,682.91. The report says: "While there has been a decided improvement in the business of the company since the beginning of the year, it has not yet nearly reached normal proportions, although the outlook and inquiries indicate that in the near future the full capacity of your various works will be required to meet the demand." The financial report states the surplus on March 31, 1909, at \$8,980,324.69, against \$12,595,151.67 March 31, 1907.

IMPROVED ACTIVITY OF GENERAL ELECTRIC.

THE General Electric Co. were reported early in the last month to be giving employment to about 25,000 persons. At the high point of the company's business in 1907 the number of employes had reached about 31,000, but following the depression the figure fell to about 19,000. The increase in the number of employes has been gradual, keeping pace with the slow but constant improvement in sale. It is estimated that the number of employes will be increased to 30,000 within a year.

AMERICAN MOTOR CABS.

THE *India-Rubber Journal* says: "We learn that our American cousins are about to place upon the roads in the chief cities in the States, motor cabs of home manufacture, which will mean increased demand for rubber tires, which at the lowest computa-

tion means 20s. a week per vehicle for tires alone—£52 a year. A similar development is also expected in the old country in other towns, so that there should be a big increase in the demand for tires and a similar increased consumption of rubber."

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for four weeks, ending August 21:

COMMON STOCK, \$25,000,000.

[Less \$1,334,000 in treasury of a subsidiary company.]

Last Dividend, April 30, 1909—1%.

Week July 31....	Sales 3,700 shares	High 42	Low 38¼
Week August 7.	Sales 31,220 shares	High 47½	Low 42
Week August 14.	Sales 48,525 shares	High 53	Low 45
Week August 21.	Sales 65,743 shares	High 57½	Low 50

For the year—High, 57½, Aug. 19; Low, 27, Feb. 24.

Last year—High, 37½; Low, 17½.

FIRST PREFERRED STOCK, \$36,263,000.

Last Dividend, July 31, 1909—2%.

Week July 31....	Sales 2,250 shares	High 117	Low 116½
Week August 7.	Sales 6,170 shares	High 119	Low 117
Week August 14.	Sales 10,620 shares	High 120¼	Low 117
Week August 21.	Sales 5,070 shares	High 120¼	Low 118½

For the year—High, 120¼, Aug. 14; Low, 98, Jan. 29.

Last year—High, 108; Low, 70.

SECOND PREFERRED STOCK, \$9,965,000.

Last dividend, July 31, 1909—1½%.

Week July 31....	Sales 410 shares	High 83¾	Low 83
Week August 7.	Sales 6,245 shares	High 87	Low 84
Week August 14.	Sales 4,935 shares	High 88½	Low 86
Week August 21.	Sales 2,150 shares	High 88¾	Low 86½

For the year—High, 88½, Aug. 14; Low, 67½, Feb. 25.

Last year—High, 75½; Low, 42.

SIX PER CENT. CERTIFICATES, \$20,000,000.

[\$15,000,000 issued.]

Week July 31....	Sales 27 certs.	High 105¾	Low 105¼
Week August 7.	Sales 78 certs.	High 105½	Low 105
Week August 14.	Sales 27 certs.	High 105½	Low 105
Week August 21.	Sales 75 certs.	High 105½	Low 104¾

* * *

THE New York *American's* review of Wall Street for the week ending August 21, a period of much activity in stocks, says: "One stock strong throughout the excitement was United States Rubber common. This stock is to get a dividend at the rate of 4 per cent., the initial payment to be announced in October, at the latest, and perhaps at the regular meeting to be held September 16. There is a party of directors opposed to this dividend, but it is suspected that they have sold out their shares and would like to repurchase before the action that the most influential directors have announced will be taken."

On the contrary, the *Boston News Bureau* reports: "A leading director of the company says: 'The matter of starting dividends on the \$25,000,000 common this year has not been considered by the board and is not likely to be. It is entirely too early to talk common dividends. We have had a good year and are earning a substantial surplus for the common, but directors will go slow in paying out these earnings as dividends when they can be utilized to better advantage in the property.'

"The nearness of dividends on Rubber common depends entirely upon the continuance of good earnings. With another year as good as the one through which the company is now passing common dividends would be fairly certain, and if the outlook favored a third year of substantial earnings, would be practically assured."

The latest quotations are 51¼ for common and 118½ for first preferred.

MORGAN & WRIGHT BRANCHES.

MORGAN & WRIGHT (Detroit, Michigan), who have been represented at Atlanta, Georgia, by the Alexander-Seewald Co., have opened a branch at No. 50 North Pryor street, under the management of Herbert Starnes, one of the oldest employes of the company, who has acted as their representative in the states of Kentucky, Tennessee, Mississippi, and Alabama for several years. The Morgan & Wright branch at Los Angeles, California, on September 1 removes to more commodious quarters at No. 1108 South Main street, where they will have better facilities for taking care of the trade.

PLYMOUTH RUBBER CO.—FACTORY EXTENSION.

The Plymouth Rubber Co. are building an addition to their factory at Stoughton, Massachusetts, on account of the pressure of business, as a temporary means of taking care of their orders. They will, however, soon start erecting new factory buildings on their property recently purchased at Canton, Massachusetts [see THE INDIA RUBBER WORLD, July 1, 1909—page 367], where they have over 70 acres of land, several hundred horse power in water, and superior facilities for shipment by rail. The company are doing a large amount of business in high-grade single and double textile goods, producing some of the very best results in feather-weight waterproof work.

NEW RUBBER CEMENT BUSINESS.

PAUL VAN CLEEF has started the manufacture of rubber cements at No. 1145 Seventy-sixth street, Chicago. On July 1 he purchased the rubber cement plant of Eugene Arnstein, Inc., in bankruptcy [see THE INDIA RUBBER WORLD, July 1, 1909—page 366]. Mr. Van Cleef was formerly the superintendent and chemist of the Arnstein factory, most of the equipment of which he has removed to the premises above mentioned. He has secured the right to use the Arnstein brands for cements for the shoe factory and shoe findings departments.

NEW YORK TAXICAB RESULTS.

At the third annual meeting of the New York Taxicab Co., Limited (London, June 29), the chairman stated that the gross operating profit of the New York taxicab service during the year 1908 had been £42,000, in spite of various untoward circumstances. The loss estimated to have been sustained through the strike of the employes was £50,000. The failure of their bankers caused a direct loss of £17,000, besides causing temporary financial difficulties. Owing to the circumstances mentioned the company have not yet increased the number of cabs to 700—the number planned. The garage recently completed for the company in New York cost £80,000.

MOTORING ACCIDENT TO MR. WATSON.

THE near escape of Mr. John J. Watson, Jr., of the American rubber trade, from a serious fate while motoring in France, was the subject of a cable dispatch in the New York *American* of August 15. It said:

"Mr. and Mrs. Watson were touring through the south of France. Between Toulouse and Villefranche, while descending a steep hill with a precipice on either side, the steering gear of the machine broke and the brakes refused to work. Fortunately, for them, the machine kept on a straight line, then it swerved and when on the verge of the precipice and just as it was dashing over the side into certain destruction, the front wheel was caught by the dustpan and the car stopped. It was a most miraculous escape. The occupants were shaken up and frightened, but uninjured."

Mr. Watson is treasurer of the United States Rubber Co. and president of the Rubber Goods Manufacturing Co. and of the General Rubber Co.

ST. PAUL TROPICAL DEVELOPMENT CO.

THE *State Journal*, Lincoln, Nebraska, publishes a report on a visit of several citizens of that place, who are investors in

this company, to the company's plantation "Rosario," on the isthmus of Tehuantepec, in Mexico. They formed a favorable opinion of the growth of the rubber and cacao. The company is incorporated under the laws of Delaware and its head office is at St. Paul, Minnesota.

TRADE NEWS NOTES.

THE directors of the Boston Woven Hose and Rubber Co. declared a quarterly dividend of \$2 per share on the common stock, payable September 15, 1909, to stockholders of record September 4. A semi-annual dividend of \$3 per share on the preferred stock was payable June 15.

The Jenkins Rubber Co. (Elizabeth, New Jersey), are putting in some new boilers and making other improvements at their factory, which is a branch of the business of Jenkins Brothers (New York), manufacturers of packings.

Hugo Michaelsen, of Copenhagen, Denmark, who has done an important business with the rubber trade on the continent in supplying manufacturers with raw materials, is opening a branch office in Berlin. Mr. Michaelsen will be visiting the United States this month and may be communicated with in care of M. Ruttenau, No. 24 Stone street, New York.

PERSONAL MENTION.

MR. PHILIP H. LOCKHART, chairman of W. & A. Bates, Limited, rubber manufacturers, at St. Mary's Mills, Leicester, England, and a director in The India-Rubber Manufacturers' Association, was a visitor to the United States during the month.

Mr. George M. Allerton, of the Seamless Rubber Co. (New Haven, Connecticut), who was recently seriously ill, at last accounts was recovering satisfactorily and hoped speedily to resume business.

DR. PINTO'S SMOKELESS RUBBER.

RUBBER obtained by the smokeless process of Dr. Carlos de Cerqueira Pinto, of Pará [see THE INDIA RUBBER WORLD, August 1, 1909—page 396], has been submitted to a number of manufacturers in the United States during the past month, and without exception with favorable results. The samples have not always been large enough to admit of absolutely conclusive reports, but a statement from the laboratory of a leading mechanical goods factory indicates the high degree of tensile strength for the Pará rubber cured by this process. A report from a druggists' sundries factory says "From indications, it would appear that the coagulating agent used does not injure the rubber in any way, and on the other hand, the color is certainly improved." All reports refer to the excellent appearance and quality of cauchó treated by Dr. Pinto's process, as compared with cauchó prepared previously under any system.

THE EDITOR'S BOOK TABLE.

A Crise Amazonica e a Borracha, 1909. 2a Edição Revista e Aumentada. [By] J. A. Mendes. Pará, 1909. [Paper. 8vo. Pp. 268 + tables.]

THIS book opens with correspondence between the governor of Pará and the president of the Brazilian republic, and of the Pará commercial association with the latter, relative to the mission of Mr. Mendes, a Pará merchant, to the national capital. He had in view the creation at Rio of a greater interest in Amazonian affairs, and particularly the adoption of measures for the benefit of the rubber production. In support of the measures he urged, Mr. Mendes wrote for the newspapers a series of articles on the rubber interest, which are here compiled, together with the most complete statistics of recent rubber production, prices, and other details regarding the trade in Amazon rubber that have yet been published. The work of Mr. Mendes proved influential, in respect both of the creation of new banking facilities on the Amazon and the adoption of laws for the encouragement of direct exports of rubber by producers.

“The Father of the Bicycle.”

THERE is no question that the giving of a practical shape to the bicycle afforded the most definite impetus that the development of the pneumatic tire ever received. There had been pneumatic tires and there had been bicycles years before Albert Augustus Pope began his business career, but neither had been developed into a commercial success, and it may be claimed for this gentleman that to no one else in any country is so much credit due for giving the bicycle a practical shape or for encouraging the development of a tire that would make the use of the bicycle popular. Not only this, but in America he was the original apostle of good roads, rightly holding that before he could build up a great business in bicycles—and he did live to build up the greatest in the world—there must be a system of roads over which bicycles could be run. The missionary work he performed in the interest of roads, at a great cost of personal effort, as well as the expenditure of a fortune, not only promoted bicycling, but is to-day a source of satisfaction to hundreds of thousands of motorists, and a source of profit to such users of American highways as still employ horse-drawn vehicles.

Albert Augustus Pope was born September 20, 1843, in Brookline, near Boston. The outbreak of the civil war found him employed as a clerk in the shoe and leather trade. At the age of 19 he enlisted in the Thirty-fifth Massachusetts Infantry in which he was speedily promoted for efficiency, and at the end of the war he received as a reward for “gallant conduct” the brevet title of Lieutenant-Colonel. Shortly afterward he was engaged in business on his own account in Boston in shoe manufacturers’ supplies and kindred goods. At the Philadelphia Centennial Exhibition, in 1876, his attention was first attracted to the bicycle by seeing one of English make—the kind with the great high wheel in front. He at once learned to ride and took on the importation of these machines, but in 1877 he had a bicycle built at the cost of \$313, the first built in America, and the forerunner in the very great business in bicycles done by Colonel Pope.

In 1876 he had organized the Pope Manufacturing Co., to deal in small patented articles. It was soon to devote its interest exclusively to bicycles. In 1878 the company gave an order for bicycles to a sewing machine company at Hartford, Connecticut, and soon became the largest customer of the latter, finally taking over the control of the factory. The Pope Manufacturing Co. acquired the various patents on bicycles which speedily came into existence, with a view not so much to monopolizing the industry as to rendering himself independent of others.

The liberal policy of Colonel Pope is illustrated by his issuing licenses under his patents to all reputable concerns engaged in the same industry. His work in the cause of good roads likewise benefited his competitors as well as himself. Likewise the whole trade was benefited by a bicycle journal which he founded at a heavy cost. Always disposed toward a policy of independence, Colonel Pope insisted upon the control of every item of production of the bicycle, an illustration of which was his purchase of the Hartford Rubber Works, originally devoted to another branch of production, but by the Pope Manufacturing Co. devoted exclusively to rubber tires.

The Pope Manufacturing Co. took part in the organization of the American Bicycle Co., incorporated in New Jersey in 1899, with \$80,000,000 capital authorized, Colonel Pope becoming a director. In the declining popularity of the bicycle which followed within a few years The American Bicycle Co. went into liquidation, after which Colonel Pope organized a new Pope Manufacturing Co. and succeeded to the business of the failed concern. He labored hard to restore the popularity of the bicycle, but finally his company devoted itself more largely to automobiles.

It is to be noted, by the way, that Colonel Pope was a pioneer in automobiles as well as in bicycles. The automobile in America had little serious attention until a motor carriage department was organized by the Pope Manufacturing Co., the first product being an electric vehicle illustrated in THE INDIA RUBBER WORLD, June 10, 1897 (page 249), under the heading “Practical Introduction of the Horseless Carriage.”

Much of Colonel Pope’s personal fortune was lost in the wreck of the American Bicycle Co. But he addressed himself bravely to turning its effects to account, and although the Pope Manufacturing Co. were obliged to apply for a receivership in August, 1907—at the beginning of the general financial depression—all the creditors were paid in full, and the company was reorganized on a sound basis.

Colonel Pope was in failing health for a considerable time before his death, which occurred on August 10, at his home at Cohasset, Massachusetts. Funeral services were held at the residence and at the Old South Church, in Boston, the latter being attended by members, military and civic organizations and a large number of prominent citizens. The service was of a semi-military nature. The interment was at Forest Hills cemetery.

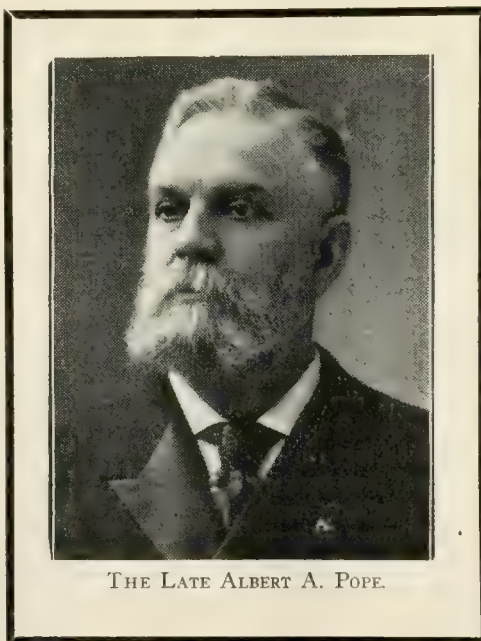
Colonel Pope married, September 20, 1871, Miss Abby Linder, of Newton, Massachusetts, who survives him, with three sons and a daughter. They are Albert L. Pope, now president of the Pope company; Harold L. Pope, Ralph L. Pope and Mrs. Freeman L. Hinckley.

Colonel Pope was a director in several banks and a member of various other institutions—business, social, scientific, and so on. He had served in the city councils of Boston and Newton.

The value of Colonel Pope’s estate was not stated at the filing of his will for probate at Dedham, Massachusetts, on August 14, but it is estimated at more than \$2,000,000. There are fourteen bequests of public or philanthropic character, disposing of shares in the Pope Manufacturing Co., of the par value of \$21,000. Provision is made for the widow of an annuity of \$12,000 for life, together with liberal bequests to the descendant’s sisters and various other relatives.

The duties of the receivers of the old Pope Manufacturing Co. ceased on August 3, when the last formality was concluded in the New Jersey court and the receivers were discharged from further responsibility. The new, reorganized Pope Manufacturing Co., however, had been in possession of the Pope factories and property for several months.

Two New Yorkers, while engaged in pumping up a deflated automobile tire, are mentioned as each having had an arm fractured as a result of the tire explosion.



THE LATE ALBERT A. POPE.

FISHER PROCESS RUBBER.

THE Fisher Process Rubber Co., incorporated August 4, 1900, under the laws of New York, with \$100,000 capital, has been formed for acquiring a chemical process for the preservation of rubber latex for any period desired and for its coagulation whenever convenient. The inventor of the process is Mr. William Fisher, a German chemist, who has spent many years in the rubber countries of America and Asia. It is claimed by Mr. Fisher that by the use of his process a given amount of latex will yield more rubber, and rubber of a better average quality, and therefore salable at a higher price, than is possible under any other

treatment. Mr. Fisher also has devoted attention to the development of an improved tapping tool.

MR. A. H. ALDEN, president of the New York-Commercial Co., spent part of the summer in Europe. The rubber business of Mr. Alden at Pará and Manáos has been formed into Aldebert H. Alden, Limited, registered in London with £100,000 capital.

THE Fisk Rubber Co. (Chicopee Falls, Massachusetts), claim to have made the largest tires ever built for an automobile—rear tires 40 x 6 inches. The front tires for the same machine were 40 x 5 inches.

Review of the Crude Rubber Market.

WHILE prices have declined sharply since our last quotations, they are still at a very high level, and the market closed firm at the end of the month. In fact, closing prices were higher at the close than a few days earlier. Receipts have been taken promptly. The decline was attributed to the fact that the tire manufacturers having covered their wants pretty fully, they had retired from the market for the time being; besides the period of non-arrivals at Pará is constantly shortening, with the approach of the crop season.

At the monthly sale at Antwerp on August 27 about 500 tons found buyers at very firm prices, which is more significant in view of this having been a large sale.

Following are the quotations at New York for Pará grades, one year ago, one month ago, and August 30—the current date:

PARÁ.	Sept. 1, '08.	Aug. 1, '09.	Aug. 30.
Islands, fine, new.....	89a 90	a 181	a 168
Islands, fine, old.....	none here	@185	a 175
Upriver, fine, new.....	95@ 96	@195	a 190
Upriver, fine, old.....	98a 100	a 108	none here
Islands, coarse, new.....	43a 44	a 75	@ 64
Islands, coarse, old.....	none here	a 78	a 75
Upriver, coarse, new.....	68a 69	@120	a 113
Upriver, coarse, old.....	69a 70	none here	none here
Caucheta		a 92	a 83
Caucho (Peruvian), ball...	61a 62	@112	a 105
Caucho (Peruvian), sheet...	50a 51	a 90	@ 86
Ceylon (Plantation), fine sheet	103a 104	@200	a 192

AFRICAN.	Sept. 1, '08.	Aug. 1, '09.	Aug. 30
Lopori ball, prime.....	80a 81	a 125	a 120
Lopori strip, prime.....	62a 63	a 120	a 118
Aruamu		@115	a 106
Upper Congo ball, red.....		@123	a 120
Ikelemba	none here	@...	@...
Sierra Leone, 1st quality...	78a 80	@125	a 123
Massai, red	78a 80	@125	a 123
Saudon nggers	54a 55	a 118	a 110
Cameroon ball	48a 49	@108	a 105
Benguela	43 1/2a 44	@ 80	@ 80
Madagascar, pinky	64a 65	a 104	a 102
Acera flake	15a 16	@ 24	@ 24

CENTRALS.	Sept. 1, '08.	Aug. 1, '09.	Aug. 30
Esmeralda, sausage	60a 61	@ 98	a 95
Guayaquil, strip	44a 45	a 85	a 78
Nicaragua, scrap	59a 60	a 97	@ 95
Panama	44a 45	@ 88	a 83
Mexican, scrap	59a 60	a 98	@ 95
Mexican, slab	49a 41	@ 85	@ 80
Mangabeira, sheet	43a 44	@ 66	a 66
Guayule	25a 26	a 40	a 45

EAST INDIAN.	Sept. 1, '08.	Aug. 1, '09.	Aug. 30
Assam	72a 73	95a 96	95a 96
Pontianak		a 43 1/2	a 43 1/2
Borneo	26a 27	a 40	a 40

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.....	88\$100	Upriver, fine.....	
Islands, coarse	28\$500	Upriver, coarse	
		Exchange	15 5/32d.

Late Pará cables quote.

	Per Kilo.		Per Kilo.
Islands, fine	88\$700	Upriver, fine	108\$000
Islands, coarse	38\$200	Upriver, coarse	88\$700

NEW YORK RUBBER PRICES FOR JULY (NEW RUBBER).

	1909.	1908.	1907.
Upriver, fine	109 1/2	94 1/2	108 1/2
Upriver, coarse	91 1/2	91 1/2	86 @ .90
Islands, fine	144 1/2	84 1/2	104 1/2
Islands, coarse	57 1/2	49 1/2	61 @ .64
Caucheta	92 1/2	82 1/2	70 @ .71

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.		Total	Total	Total
	Fine and Medium	Coarse.	1909.	1908.	1907.
Stocks, June 30	293	189	392	347	303
Arrivals, July	379	244	623	1,350	695
Aggregating	582	433	1,015	1,007	998
Deliveries, July	459	326	785	1,411	708
Stocks, July 31.....	123	107	230	286	290
	PARÁ.		ENGLAND.		
	1909.	1908.	1907.	1909.	1908.
Stocks, June 30.....tons	245	373	170	320	1,235
Arrivals, July	700	1080	1000	550	370
Aggregating	1005	1453	1200	870	1611
Deliveries, July	455	1203	1095	625	1411
Stocks, July 31.....	550	250	165	245	200
World's visible supply, July 31.....tons			1,300	1,922	1,659
Pará receipts, July 1 to July 31.....			760	1,080	1,090
Pará receipts of Caucho, same dates....			330	240	230
Afloat from Pará to United States, July 31			none	270	109
Afloat from Pará to Europe, July 31....			275	355	420

Liverpool.

WILLIAM WRIGHT & Co. report [August 3]:

Fine Pará. Record prices, record sales, and a record gamble fitly describe this month's market. The unprecedented advance of 2s. per pound has, we think, been almost entirely due to speculation, practically amounting to a reckless speculation of the Wall street type, but we would remind such speculators that there is a process known as "going to the wall," as well as one emanating from it, and that the former is, generally speaking the ultimate goal of such ventures. No nation, least of all America, has a commercial reputation for philanthropy, and we refuse to believe that manufacturers there are buying rubber which they cannot use until November or December, at 1s. 9d. to 2s. per pound more than they might reasonably expect to get it by waiting. Such rash speculation is bound to

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for car-load lots, per pound—show an advance since last month:

Old rubber boots and shoes—domestic.....	107 1/2a 11
Old rubber boots and shoes—foreign.....	103 1/4 @ 10 1/2
Pneumatic bicycle tires	6 3/4 @
Automobile tires	6 7/8 @ 7
Solid rubber wagon and carriage tires	9 @ 9 1/2
White trimmed rubber	10 @ 11
Heavy black rubber.....	6 1/2 @ 6 3/4
Air brake hose.....	4 1/2 @ 4 3/4
Garden hose	3 @ 3 1/8
Fire and large hose.....	3 1/4 @ 3 1/2
Matting	2 @ 2 1/4

seriously affect the rubber industry; a continuance of present prices will inevitably lead to the closing down of some factories and a serious curtailment in others. In the best interests of the trade it is high time "a halt" was called, and we can only counsel manufacturers under present conditions to use as little rubber as possible. For the first week of the month there was a firm and steady market; subsequently, for reasons given above, an excited market prevailed, with a series of rapid advances in prices, culminating in 8s. 6d. [= \$2.068] being paid for near and 6s. 10d. [= \$1.66] for January-February.

United States Imports of Crude Rubber.

OFFICIAL FIGURES (FISCAL YEAR ENDING JUNE 30).

FROM	1906-07.	1907-08.	1908-09.
United Kingdom.....pounds	9,893,471	6,809,622	12,825,192
Germany	4,730,257	2,821,194	4,503,286
Other Europe.....	9,381,326	6,883,473	7,598,809
Central America and British Honduras	1,194,249	992,198	861,636
Mexico	7,175,097	9,269,443	15,460,365
Brazil	40,286,751	32,645,173	43,993,670
Other South America.....	2,036,962	1,537,887	1,964,114
East Indies	2,234,654	1,237,487	1,127,686
Other Countries	31,071	36,683	25,137
Total .....pounds	76,963,838	62,233,160	88,359,895
Import value.....	\$58,919,981	\$36,613,185	\$61,709,723
Av. per pound.....	76.5 cents.	58.8 cents.	69.8 cents.

[NOTE.—The extreme advance in crude rubber developed too late in the fiscal year to bring up the average invoice values to a figure as high as prevailed two years before. Another factor in keeping down the import cost is the great increase in the importation of guayule rubber. The average invoice value of all rubber imported during June, 1909, was 81.7 cents. against 56.2 cents in June, 1907.]

OTHER UNITED STATES IMPORTS.

	1906-07.	1907-08.	1908-09.
Balata .....pounds.	565,396	584,552	1,157,018
Gutta-percha	546,890	188,610	252,559
Waste rubber.....	29,335,193	16,331,035	20,468,526
Gutta-jelutong	28,437,660	22,803,303	24,826,296

Antwerp.

ANOTHER important advance in the price of caoutchouc occurred at the sale in Antwerp on July 29. This was inevitable after the fantastic rise of nearly 28 per cent. in the Pará less than a month before. The greater part of the lots offered at Antwerp were sold at an average increase of 1.16 francs—i. e., 11.45 per cent. The prices paid are better than ever before realized. Plantation caoutchouc is the most sought after, bringing as much as 23.65 francs a kilogram (\$2.07 per pound), that is, as much

as the Pará, which it equals in quality, if it does not surpass it. The good Congo varieties also bring very satisfactory prices: 14.32 francs for the Upper Congo, and for the black Kasai, and 5.77 francs for the red Kasai.

It is to be noted that during the sale at Havre on July 27, the varieties from the French Congo scored the highest prices ever reached, especially the M'Poko rubber at 13.10 francs, the Sangha at 13.65 francs, the N'Kémé at 12.50 francs, the Upper-Oubangui at 13.27 francs, the N'Goko Sangha at 13.17½ francs, and the Ekela at 13.25 francs.

RUBBER STATISTICS FOR JULY.

DETAILS.	1909.	1908.	1907.	1906.	1905.
Stocks, May 31.....kilos	476,420	684,866	671,793	618,834	582,986
Arrivals in July	529,920	227,202	613,064	328,799	449,085
Congo sorts.....	461,506	172,828	559,144	247,107	324,963
Other sorts.....	68,414	54,374	53,920	81,692	124,122
Aggregating	1,006,340	912,068	1,284,857	947,633	1,032,071
Sales in July.....	481,828	216,517	353,501	416,192	212,512
Stocks, July 31.....	524,512	695,551	931,356	531,441	819,559
Arrivals since Jan 1.....	2,933,424	2,833,027	3,191,798	3,355,605	3,210,284
Congo sorts	2,177,715	2,430,364	2,753,722	2,560,838	2,536,030
Other sorts	755,709	402,663	438,076	794,767	674,254
Sales since Jan 1.....	3,004,647	3,144,370	2,918,626	3,559,351	2,932,086

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

JULY 28.—By the steamer *Justin*, from Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Poel & Arnold	59,000	9,200	86,200	5,400=	159,800
A. T. Morse & Co.....	42,100	...	43,600	...	85,700
Hagemeyer & Brunn	31,100	1,100	40,900	...	73,100
New York Commercial Co.....	3,200	23,000	6,300	2,100=	34,600
General Rubber Co.....	1,400	600	14,500	300=	16,800
Edmund Reeks & Co.....	4,700	700	1,300	...	6,700
Total	141,500	34,600	192,800	7,800=	376,700

AUGUST 13.—By the steamer *Cearaense*, from Manáos and Pará:

Poel & Arnold	155,700	15,400	82,000	10,900=	264,000
A. T. Morse & Co.....	92,400	6,300	85,300	...	184,000
Hagemeyer & Brunn	52,500	700	83,200	...	136,400
New York Commercial Co.....	74,200	31,900	17,000	4,000=	127,100
General Rubber Co.....	7,200	300	9,900	...	17,400
Edmund Reeks & Co.....	10,000	1,800	2,000	...	13,800
C. P. dos Santos	6,100	300	1,300	...	7,700
Total	398,100	56,700	280,700	14,900=	750,400

PARA RUBBER VIA EUROPE.

	POUNDS.
JULY 28.—By the <i>Caronia</i> =Liverpool:	
Poel & Arnold (Fine).....	56,000
New York Commercial Co. (Fine)	27,000
Poel & Arnold (Coarse).....	60,000
Aug. 2.—By the <i>Victoria</i> =Hamburg:	
A. T. Morse & Co. (Fine).....	22,500
Aug. 2.—By the <i>Cedric</i> =Liverpool:	
New York Commercial Co. (Fine)	30,000
A. T. Morse & Co. (Coarse).....	11,000
Aug. 5.—By the <i>Teutonic</i> =London:	
Poel & Arnold (Coarse).....	40,000
Aug. 7.—By the <i>Campania</i> =Liverpool:	
Poel & Arnold (Coarse).....	22,500
Aug. 9.—By the <i>Lapland</i> =Antwerp:	
George A. Alden & Co. (Fine).....	5,500
Aug. 19.—By the <i>Atrato</i> =Mollendo:	
New York Commercial Co. (Fine).....	4,500

OTHER NEW YORK ARRIVALS.

CENTRALS.

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

	POUNDS.
JULY 26.—By the <i>El Dia</i> =Galveston:	
Continental-Mexican Rubber Co.....	*125,000
Ed. Boehringer	*45,000
JULY 26.—By the <i>Larringo</i> =Pernambuco:	
A. D. Hitch & Co.....	9,000
Elmhurst & Co.....	3,500
JULY 27.—By the <i>Manzanillo</i> =Tampico:	
Ed. Maurer	*80,000
Poel & Arnold	*20,000

JULY 29.—By the *Colon*=Colon:

G. Amsinck & Co.....	3,500
A. Santos & Co.....	3,000
Elias & Abdo	2,000
Dumarest Bros.	2,000
Hy. Mann & Co.....	2,000
Pablo, Calvet & Co.....	1,000
Graham, Hinkley Co.	1,000
Total	14,500

JULY 30.—By the *Antilla*=Tampico:

Ed. Maurer	*65,000
New York Commercial Co.....	*33,000
For Europe	*45,000
Total	*143,000

JULY 31.—By the *Monterey*=Frontera:

Harburger & Stack	7,000
H. Marquardt & Co.....	5,500
A. Klepstein & Co.....	1,000
Total	13,500

AUG. 2.—By the *Victoria*=Hamburg:

Geo. A. Alden & Co.....	22,500
-------------------------	--------

AUG. 4.—By the *Thames*=Colon:

Maitland, Coppell Co.....	5,500
Mecke & Co.....	3,000
Brandon & Bros.	2,500
Manhattan Rubber Co.	1,500
Eggers & Heinlein	1,000
A. N. Rotholz	1,000
Total	14,500

AUG. 5.—By the *Vasari*=Bahia:

A. Hirsch & Co.....	25,000
New York Commercial Co.	22,500
Poel & Arnold	22,500
J. H. Rossbach Bros.....	18,000
A. D. Hitch & Co.....	1,000
Total	90,000

AUG. 6.—By the *Alleghany*=Savanilla:

Stanley, Jordan & Co.....	2,500
A. Held	2,000
Seanz & Co.....	1,500
Total	6,000

AUG. 5.—By the *Panama*=Colon:

Brandon & Bros.	4,500
G. Amsinck & Co.....	4,000
Hirzel, Feltman Co.	2,500

Hy. Mann & Co.....	2,000
A. M. Capens' Sons.....	1,500
American Trading Co.....	1,500
Mecke & Co.....	1,000
Roldau & Van Sickle.....	1,000
A. Rosenthal Sons.....	1,000
Harburger & Stack	1,000
De Lima & Cortessa	1,000
Total	21,000

AUG. 6.—By the *Antilla*=New Orleans:

A. T. Morse & Co.....	6,000
Eggers & Heinlein	2,500
Manhattan Rubber Co.	1,000
G. Amsinck & Co.....	1,000
Total	10,500

AUG. 6.—By the *Merida*=Mexico:

H. Marquardt & Co.....	3,000
Graham, Hinkley Co.	2,500
E. N. Lebbals & Co.....	2,000
Harburger & Stack	1,000
American Trading Co.	1,000
Total	9,500

AUG. 9.—By the *St. Paul*=London:

Poel & Arnold	15,000
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AUG. 10.—By the *Yumuri*=Tampico:

Ed. Maurer	*70,000
Continental-Mexican Rubber Co.....	*15,000
Poel & Arnold.....	*15,000
Total	*100,000

AUG. 11.—By the *El Alba*=Galveston:

Continental & Mexican Co.	*125,000
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AUG. 12.—By the *Tintoretto*=Bahia:

J. H. Rossbach Bros.....	16,000
A. Hirsch & Co.....	15,000
Poel & Arnold	11,000
Total	42,000

AUG. 12.—By the *Adance*=Colon:

L. Johnson & Co.....	4,000
G. Amsinck & Co.....	4,000
Hirzel, Feltman & Co.....	3,000
Hy. Mann & Co.....	2,000
A. Rosenthal Sons.....	3,000
Mecke & Co.....	1,000
Dumarest Bros.	1,000
Total	18,000

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it DOES NOT BLOW UNDER CURE.

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Sole Factories
WALPOLE RUBBER WORKS
WALPOLE, MASS.
ELECTRIC INSULATION LABORATORY



THEODORE HOFELLER & CO.
BUFFALO, N. Y.

LARGEST DEALERS IN

OLD RUBBER
IN THE WORLD

CRUDE (MANUFACTURED) RUBBER

was the same as it is in Brazil to-day, the country producing the best rubber. Without chemical warrant, however, we make the statement that this is the reason a chemical analysis of Maltha Hydro-Carbon is nearly identical with that of Para. It is the fossilized rubber tree of centuries ago.

Write to-day—now—for a free working sample for it is truly a VIRGIN SYNTHETIC RUBBER.

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CHARLES T. WILSON

MEXICAN (Guayule) RUBBER

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GUAYULE

Made by mechanical process only, of strictly fresh shrub.

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The recognized Standard, practically clean, containing less resin and having greater tensile strength than any other Guayule.



Prepared from high grade "Parra" Guayule, guaranteed uniform, washed and dried, ready for use. Vulcanizes easily without special compounding.

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OR MONTHLY DELIVERIES

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Sole Representative of the MADERO interests in Mexico,
Largest Producers of Guayule Rubber, Operating Nine Factories.

Aug. 13.—By the <i>El Siglo</i> =Galveston:	
Continental Mexican Rubber Co.....	*135,000
Aug. 13.—By the <i>Morro Castle</i> =Mexico:	
Harburger & Stack.....	9,000
E. N. Tibbals & Co.....	3,000
Graham, Hinkley Co.....	1,500
E. Steier & Co.....	1,000
J. W. Wesner & Co.....	1,000
Aug. 16.—By the <i>Arabic</i> =Liverpool:	
Rubber Import Co.....	7,000
Aug. 16.—By the <i>Cincinnati</i> =Hamburg:	
J. H. Rossbach Bros.....	15,000
Aug. 17.—By the <i>Chanting</i> =London:	
New York Commercial Co.....	18,000
Ed. Maurer & Co.....	3,000
Poel & Arnold.....	1,000
Aug. 17.—By the <i>Leinster</i> =New Orleans:	
A. T. Morse & Co.....	3,000
Manhattan Rubber Mfg.....	4,000
Aug. 17.—By the <i>Arato</i> =Columbo:	
A. M. Capens' Sons.....	3,000
I. A. Pears & Co.....	1,000
Kunhardt & Co.....	1,000
Aug. 18.—By the <i>Siberia</i> =Colon:	
G. Amsinck & Co.....	8,000
A. Rosenthal's Sons.....	7,000
Piza, Nephews Co.....	3,500
A. Santos & Co.....	3,000
Brandon & Bros.....	2,000
I. S. Lambrade Co.....	2,000
Pablo, Calvet Co.....	2,000
Andean Trading Co.....	2,000
Maitland, Coppel Co.....	1,500
Hy. Mann & Co.....	1,000
Fidanque Bros. Co.....	1,000
Aug. 19.—By the <i>El Paso</i> =Galveston:	
Continental Mexican Rubber Co.....	*65,000
Aug. 20.—By the <i>Mexico</i> =Frontera:	
Harburger & Stack.....	9,000
E. N. Tibbals & Co.....	3,000
Graham, Hinkley Co.....	1,500
Tropical Products Co.....	1,500
General Export Co.....	1,000
A. Klepstein & Co.....	1,000

AFRICAN.

JULY 23.—By the <i>Louisiana</i> =Havre:	
Poel & Arnold.....	35,000
JULY 26.—By the <i>Cleveland</i> =Hamburg:	
A. T. Morse & Co.....	40,000
George A. Alden & Co.....	17,000
Poel & Arnold.....	11,500
JULY 26.—By the <i>Celtic</i> =Liverpool:	
Livesey & Co.....	9,000
H. A. Gould Co.....	7,000
Robinson & Co.....	2,000
W. L. Gough & Co.....	2,000
JULY 27.—By the <i>Zeeland</i> =Antwerp:	
A. T. Morse & Co.....	82,000
W. H. Stiles & Co.....	5,000
JULY 28.—By the <i>Caronia</i> =Liverpool:	
Poel & Arnold.....	120,000
George A. Alden & Co.....	22,500
H. A. Gould Co.....	4,500
JULY 29.—By the <i>Louisa</i> =Lisbon:	
General Rubber Co.....	145,000
JULY 29.—By the <i>President Grant</i> =Hamburg:	
Poel & Arnold.....	22,500
A. T. Morse & Co.....	28,000
General Rubber Co.....	5,500
Aug. 2.—By the <i>Cedric</i> =Liverpool:	
Geo. A. Alden & Co.....	30,000
Robinson & Co.....	15,000
W. L. Gough & Co.....	9,000
Aug. 2.—By the <i>Augusta</i> =Hamburg:	
Poel & Arnold.....	6,500
Aug. 3.—By the <i>Kroonland</i> =Antwerp:	
A. T. Morse & Co.....	37,000
Poel & Arnold.....	33,000
Aug. 4.—By the <i>Erika</i> =Lisbon:	
General Rubber Co.....	56,000
Aug. 6.—By the <i>Pennsylvania</i> =Hamburg:	
A. T. Morse & Co.....	75,000
Muller, Schall & Co.....	22,500
George A. Alden & Co.....	15,000
Rubber Trading Co.....	15,000
Poel & Arnold.....	9,000
W. L. Gough & Co.....	2,500
Aug. 7.—By the <i>Campania</i> =Liverpool:	
Poel & Arnold.....	28,000
George A. Alden & Co.....	10,000
Livesey & Co.....	2,500
Aug. 9.—By the <i>Touraine</i> =Havre:	
George A. Alden & Co.....	22,500

Aug. 9.—By the <i>Baltic</i> =Liverpool:	
Raw Products Co.....	4,500
W. H. Stiles & Co.....	2,000
Aug. 9.—By the <i>Lapland</i> =Antwerp:	
Raw Products Co.....	4,500
W. H. Stiles & Co.....	2,000
Aug. 9.—By the <i>Carmania</i> =Liverpool:	
Poel & Arnold.....	22,500
George A. Alden & Co.....	10,000
Aug. 9.—By the <i>Liberty</i> =London:	
George A. Alden & Co.....	11,500
Aug. 9.—By the <i>Leinster</i> =Hamburg:	
Poel & Arnold.....	4,500
General Rubber Co.....	10,000
Geo. A. Alden & Co.....	5,000
Aug. 9.—By the <i>Celtic</i> =Bordeaux:	
General Rubber Co.....	22,500
Aug. 9.—By the <i>Arato</i> =Columbo:	
A. T. Morse & Co.....	2,000
Rubber Import Co.....	15,000
W. L. Gough & Co.....	2,000
Aug. 9.—By the <i>Indra</i> =Antwerp:	
Geo. A. Alden & Co.....	14,000
A. T. Morse & Co.....	60,000
Isabel Gable.....	13,500
Aug. 18.—By the <i>Blucher</i> =Hamburg:	
A. T. Morse & Co.....	20,000
Poel & Arnold.....	3,000
Geo. A. Alden & Co.....	3,500
Rubber Trading Co.....	5,500
Aug. 19.—By the <i>Mexico</i> =Havre:	
Poel & Arnold.....	13,500
A. T. Morse & Co.....	5,500
C. P. Santos.....	2,000
Aug. 21.—By the <i>Lorraine</i> =Havre:	
George A. Alden & Co.....	25,000

EAST INDIAN.

[*Denotes plantation rubber.]

JULY 23.—By the <i>Leather</i> =Singapore:	
O. Isenstein & Co.....	80,000
George A. Alden & Co.....	5,000
JULY 24.—By the <i>Hehenfels</i> =Columbo:	
A. T. Morse & Co.....	*11,000
N. Y. Commercial Co.....	*8,000
JULY 26.—By the <i>Minnetonka</i> =London:	
General Rubber Co.....	*22,500
A. T. Morse & Co.....	*15,500
JULY 28.—By the <i>Caronia</i> =Liverpool:	
Poel & Arnold.....	7,000
JULY 28.—By the <i>Minnetonka</i> =London:	
Robinson & Co.....	15,000
JULY 28.—By the <i>Oceanic</i> =London:	
Poel & Arnold.....	*38,000
New York Commercial Co.....	*22,500
A. T. Morse & Co.....	*11,000
JULY 29.—By the <i>Indramayo</i> =Singapore:	
O. Isenstein & Co.....	75,000
Poel & Arnold.....	13,500
W. L. Gough & Co.....	15,000
Aug. 2.—By the <i>Philadelphia</i> =London:	
Poel & Arnold.....	*22,500
A. T. Morse & Co.....	*11,500
Aug. 2.—By the <i>Buceros</i> =Columbo:	
A. T. Morse & Co.....	*11,500
Aug. 3.—By the <i>Teutonic</i> =London:	
Poel & Arnold.....	*11,500
Aug. 3.—By the <i>Crosta</i> =Columbo:	
New York Commercial Co.....	*11,500
Aug. 9.—By the <i>St. Paul</i> =London:	
Poel & Arnold.....	*22,500
A. T. Morse & Co.....	*13,500
General Rubber Co.....	*7,000
Aug. 9.—By the <i>Satsuma</i> =Singapore:	
O. Isenstein & Co.....	20,000
Poel & Arnold.....	20,000
Geo. A. Alden & Co.....	11,500
Heabler & Co.....	5,500
Aug. 10.—By the <i>St. Paul</i> =London:	
Poel & Arnold.....	27,000
Robinson & Co.....	5,000
Aug. 12.—By the <i>Adriatic</i> =London:	
Poel & Arnold.....	*22,500

Aug. 13.—By the <i>El Siglo</i> =Galveston:	
Rubber Import Co.....	9,000
Aug. 13.—By the <i>Morro Castle</i> =Mexico:	
Harburger & Stack.....	9,000
E. N. Tibbals & Co.....	3,000
Graham, Hinkley Co.....	1,500
E. Steier & Co.....	1,000
J. W. Wesner & Co.....	1,000
Aug. 16.—By the <i>Arabic</i> =Liverpool:	
Rubber Import Co.....	7,000
Aug. 16.—By the <i>Cincinnati</i> =Hamburg:	
J. H. Rossbach Bros.....	15,000
Aug. 17.—By the <i>Chanting</i> =London:	
New York Commercial Co.....	*6,000
Ed. Maurer & Co.....	3,000
Poel & Arnold.....	1,000
Aug. 17.—By the <i>Leinster</i> =New Orleans:	
A. T. Morse & Co.....	3,000
Manhattan Rubber Mfg.....	4,000
Aug. 17.—By the <i>Arato</i> =Columbo:	
A. M. Capens' Sons.....	3,000
I. A. Pears & Co.....	1,000
Kunhardt & Co.....	1,000
Aug. 18.—By the <i>Siberia</i> =Colon:	
G. Amsinck & Co.....	8,000
A. Rosenthal's Sons.....	7,000
Piza, Nephews Co.....	3,500
A. Santos & Co.....	3,000
Brandon & Bros.....	2,000
I. S. Lambrade Co.....	2,000
Pablo, Calvet Co.....	2,000
Andean Trading Co.....	2,000
Maitland, Coppel Co.....	1,500
Hy. Mann & Co.....	1,000
Fidanque Bros. Co.....	1,000
Aug. 19.—By the <i>El Paso</i> =Galveston:	
Continental Mexican Rubber Co.....	*65,000
Aug. 20.—By the <i>Mexico</i> =Frontera:	
Harburger & Stack.....	9,000
E. N. Tibbals & Co.....	3,000
Graham, Hinkley Co.....	1,500
Tropical Products Co.....	1,500
General Export Co.....	1,000
A. Klepstein & Co.....	1,000

GUTTA-PERCHA.

POUNDS.

JULY 29.—By the <i>President Grant</i> =Hamburg:	
E. Oppenheim.....	7,000
JULY 29.—By the <i>Indramayo</i> =Singapore:	
Otto Isenstein & Co.....	34,000
Aug. 3.—By the <i>Maneraska</i> =London:	
Heabler & Co.....	13,500
Aug. 9.—By the <i>Baltic</i> =Liverpool:	
Earle Bros.....	11,500
Aug. 9.—By the <i>Satsuma</i> =Singapore:	
Heabler & Co.....	5,500
Aug. 10.—By the <i>Minnetonka</i> =London:	
Heabler & Co.....	2,500
Aug. 18.—By the <i>Blucher</i> =Hamburg:	
E. Oppenheim.....	2,500
BALATA.	
JULY 27.—By the <i>Cappename</i> =Demerara:	
Ed. Maurer.....	2,500
Middleton & Co.....	2,000
JULY 30.—By the <i>Grenada</i> =Trinidad:	
Frame & Co.....	2,500
AUGUST 3.—By the <i>Sarawaka</i> =Surinam:	
Frame & Co.....	3,500
Ed. Maurer.....	2,500
G. Amsinck & Co.....	1,000
Aug. 10.—By the <i>Sarawaka</i> =Demerara:	
Ed. Maurer.....	2,500
Aug. 17.—By the <i>Guiana</i> =Demerara:	
George A. Alden & Co.....	8,000
Aug. 17.—By the <i>Marsaye</i> =Trinidad:	
Ed. Maurer.....	2,000
Middleton & Co.....	1,000
Aug. 18.—By the <i>Blucher</i> =Hamburg:	
W. L. Gough & Co.....	3,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JULY

Imports:	Pounds.	Value.
India rubber.....	4,646,040	\$1,643,37
Balata.....	17,470	7,667
Gutta-percha.....	40,240	2,871
Gutta-jelutong (Pontianak).....	317,087	121,261
Total.....	5,020,797	\$1,775,169
Exports:	Pounds.	Value.
India rubber.....	200,303	\$187,007
Balata.....	8,577	4,614
Reclaimed rubber.....	32,500	5,200
Rubber scrap, imported.....	2,387,088	\$196,870



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"UNITED STATES RUBBER" AT THE SHOE FAIR.

THE United States Rubber Co. was probably the only exhibitor at the recent First World's Shoe and Leather Fair, at Boston, whose popularity became so great as to necessitate police protection from an overwhelming throng of admirers. This actually occurred, however, on the last night of the fair. The United States company had been particularly generous during the month in the distribution of various attractive items of advertising, as for instance, a genuine leather-bound memorandum book, a hard rubber match safe, miniature rubber boots, and other equally attractive objects, and on the last night of the fair the

crowd surrounding the rubber corner for the purpose of getting these valuable souvenirs became so great as to threaten to overwhelm the entire exhibit, and it required the services of several policemen with considerable lay help to keep the enthusiasm of the crowd within controllable bounds.

This rubber exhibit was one of the most successful at the fair and one of the most interesting. In the first place, the company had taken generous space and had an exhibit that fronted on three aisles, and it went to further expense in having made for the occasion a dozen large, handsome, all-glass show cases. The company showed a sample line of all its different brands, and in addition displayed some unusual styles of rubbers that attracted a great deal of attention, as for instance, the colored silk-top rubbers made at the "American" and "Boston" mills; a line of steel wool rubbers (together with a large lump of steel wool) made at the "Banigan" factory; the "Squadron" boot, a close-fitting riding boot made of rubber but looking precisely like the expensive patent leather riding boots affected by smart army officers on the other side. This particular boot, by the way, is made expressly for the export trade. The "Candee" mill also had a unique exhibit in the way of a pure white storm king boot and a tan sporting boot, while the "glove" mill contributed some sandals and six buckle gaiters of pure white rubber, and also some six-buckle gaiters in tan, and some tan storm shoes with engraved lacing across the uppers.

In addition to a great variety of samples of rubber footwear, this exhibit showed a case in which the paraphernalia for gathering crude rubber in South America was displayed. There was a quantity of the palm nuts that are burned to create the smoke that coagulates the sap, a number of paddles that are used to dip into the sap to hold over the smoke, the gourds in which the natives gather the sap, and the peculiar earthenware funnel shaped chimneys that are put over the fire to concentrate the smoke on the rubber. In addition, there were samples of crude rubbers made by the South American natives, elaborately if not artistically engraved by hand.

In addition to the display of footwear, the United States Rubber Co had quite a display of the goods made by its mechanical factories, as for instance, matting and hose made by the Mechanical Rubber Co. of Chicago, horse pads and rubber heels made by Morgan & Wright, packing and tiling made by the Peerless Rubber Manufacturing Co., and samples of the famous "G & J" automobile tires.

As already mentioned, the company was more than generous in its distribution of attractive advertising souvenirs, giving out during the month 15,000 hard rubber pocket match safes and about 10,000 leather covered memorandum books, which naturally were in great demand. In addition, it had on exhibit a "Jumbo" boot and a "Jumbo" arctic, in which glass vases full of water were very neatly concealed, these vases being full of pinks and other flowers which were distributed at the close of the evening to the lady visitors. Between the company's excellent exhibit and its exceptional kindness to visitors, it was quite natural that the Rubber corner should have proved one of the most popular spots at the fair.

SEND for a free copy of the Index to the new edition of Mr. Pearson's "Crude Rubber and Compounding Ingredients," just out, at THE INDIA RUBBER WORLD office.

FOR SALE—A good sized rubber plantation with 120,000 Castilloa rubber trees from 2 to 5 years old and 250 hectares of land. Other improvements, such as houses, pastures and land cleared for planting provisions for plantation use. There are also Cocoa trees, coffee and Para rubber doing well. Photographs of place can be had. Address HEIDMANN COFFEE CO., No. 612 Fifth street, Milwaukee, Wisconsin. (339)

FORSYTH PATENT FOR PACKING WITH PLIABLE SHEET METAL INSERTION, SUSTAINED BY THE COURTS



Sheet Packing

U. S. Letters Patent, dated April 11, 1899 to James Bennett Forsyth, which has been the subject of litigation extending through the several United States Courts, to the United States Supreme Court, has been fully and broadly sustained, and covers PLIABLE SHEET METAL INSERTION PACKING in sheet, Tubular and other forms.



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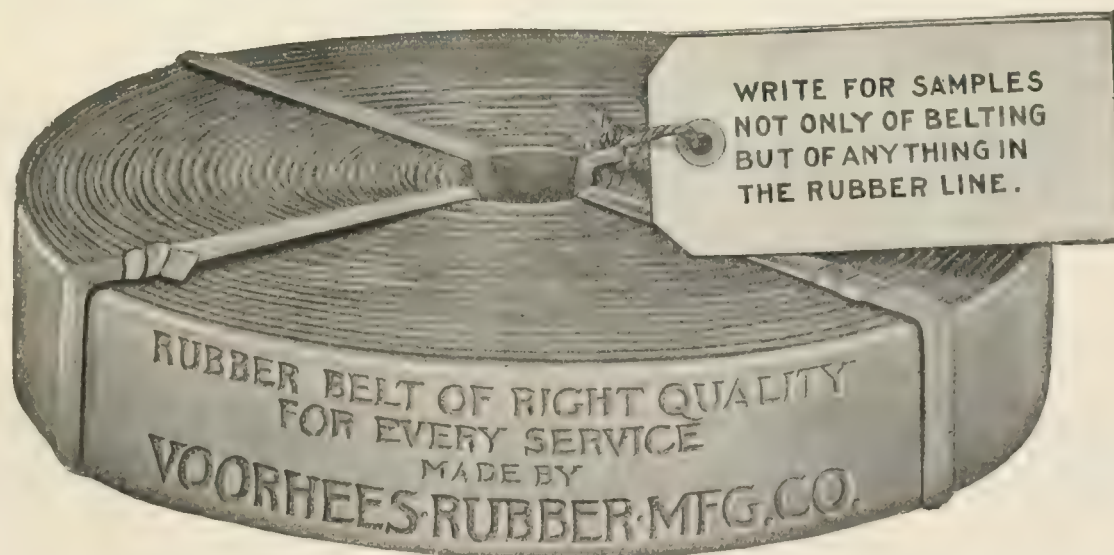
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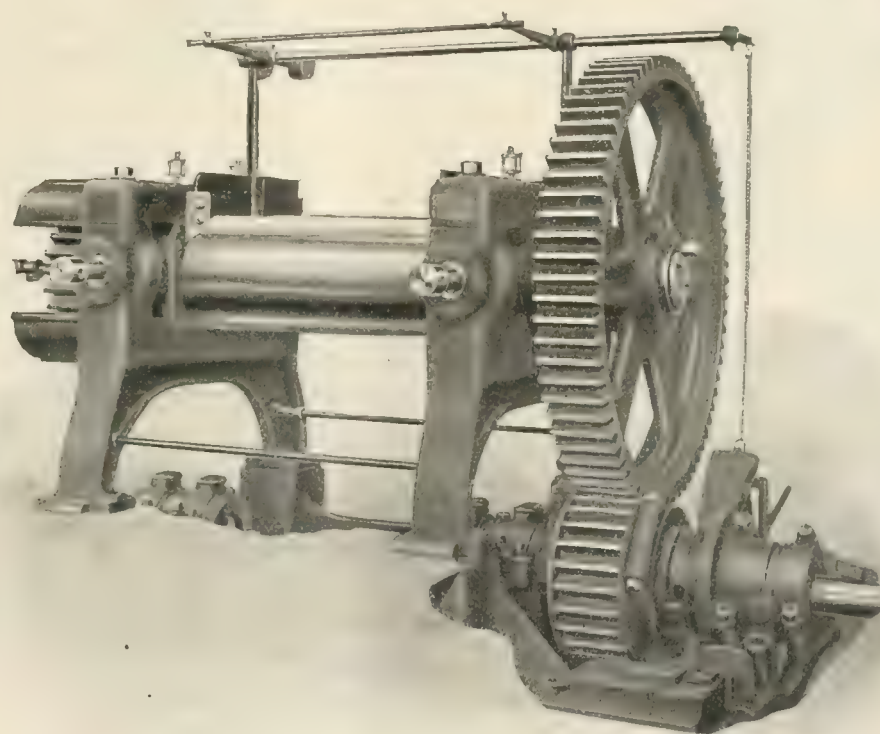
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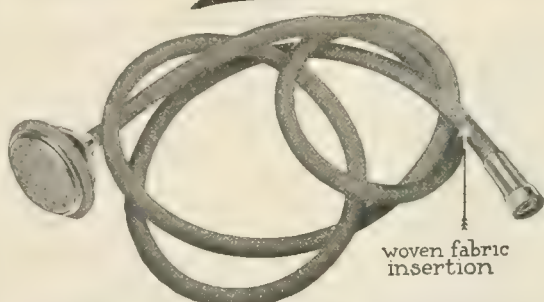
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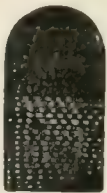
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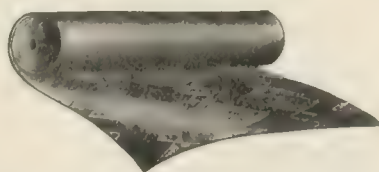


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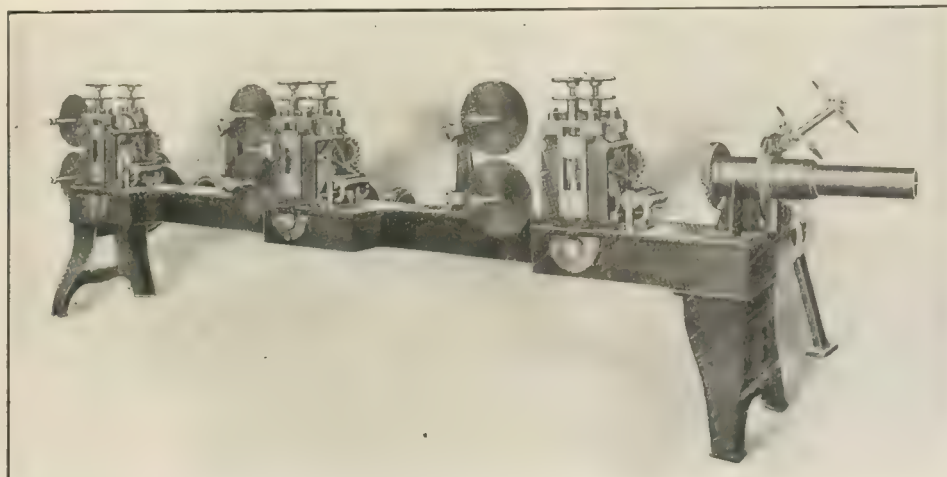
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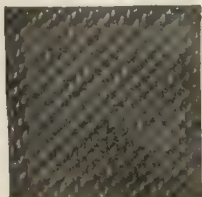
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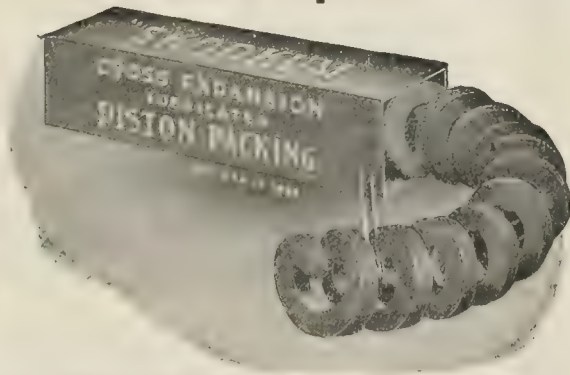
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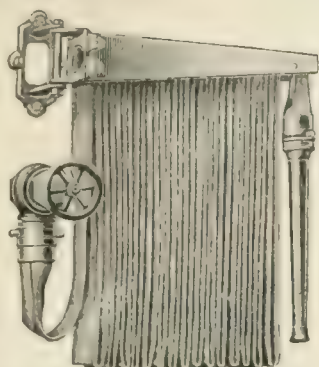
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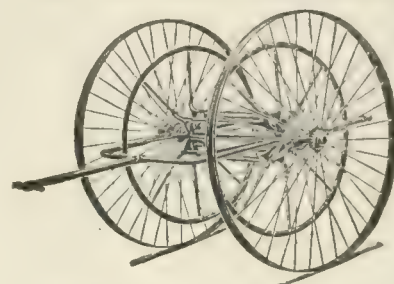
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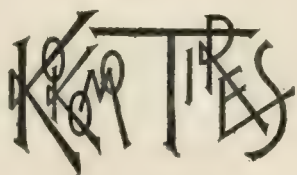
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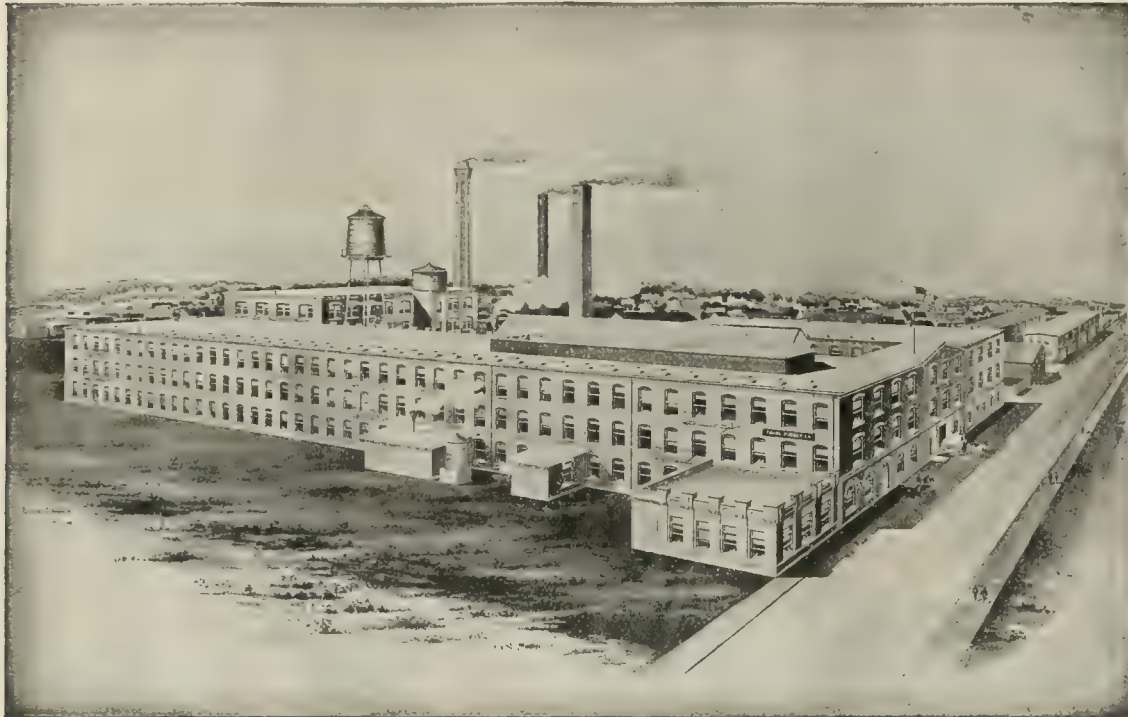
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And what that has to do with

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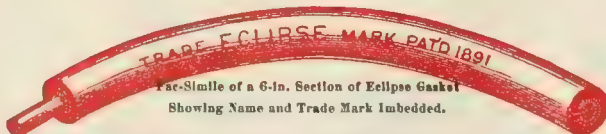
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$\frac{3}{4}$ in. }
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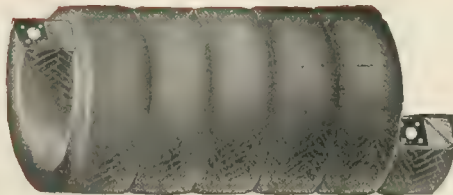
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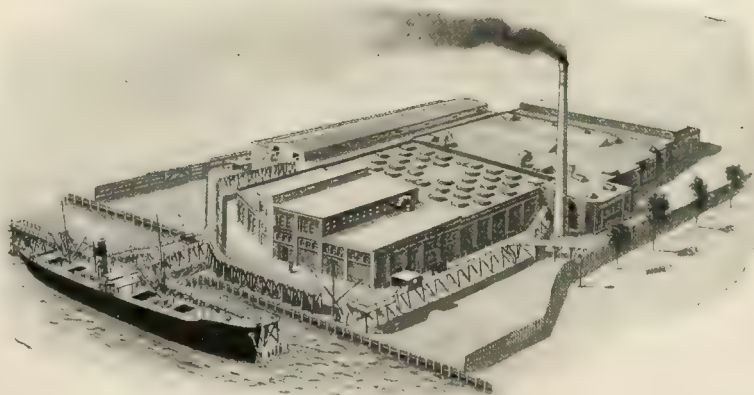
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A Government order by wire, Khartoum via Cairo (Egypt), 7th March, 1908: "Send 300,000 Ceara seed, 10,000 ditto stumps, 100,000 Hevea seed, 10,000 ditto stumps, 5,000 Castilloa seed."

An Agricultural Department order from Dutch West Indies, Paramaribo, 18th January, 1908: "Please send me as soon as you have fresh seed 90,000 (ninety thousand) seeds of Hevea Brasiliensis; your method of packing is all right; the seeds shipped last year to the Superintendent of the Botanic Garden arrived in good condition."

A planting Company's order by telegraph, Berlin, 7th March, 1908: "Please send 50,000 Hevea stumps, arrival in May, Hamburg Noerman Line, the purchase money to be paid on signing, and in exchange for documents Hong Kong & Shanghai Banking Corporation. Please confirm order."

A Surinam Planter's order who purchased 20,000 Hevea seeds last year, 17th February, 1908: "I now order from you 20,000 Hevea seeds to be sent by parcel post packed as before; please send selected seed from mature trees. The best results we got are from your seeds packed as above and sent by parcel post."

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William, Henaratgoda, Ceylon,

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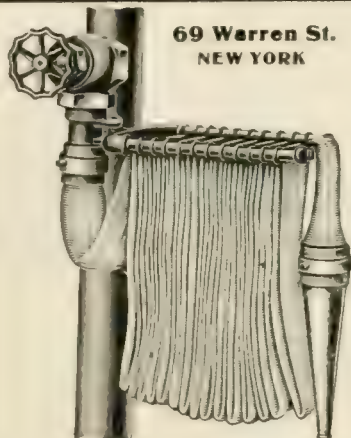
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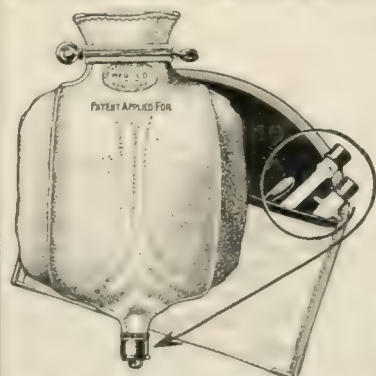
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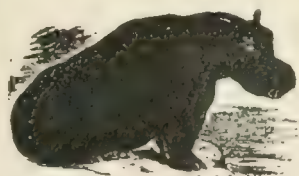
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WANTED.—Superintendent thoroughly competent to manufacture rod packings of all kinds. Address **BOX NO. 48**, care of **THE INDIA RUBBER WORLD**. (375)

WANTED.—Practical man for demonstrating all kinds of packings among engineers. Address **BOX NO. 49**, care of **THE INDIA RUBBER WORLD**. (376)

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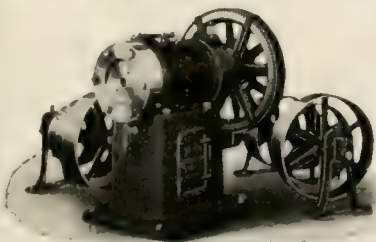
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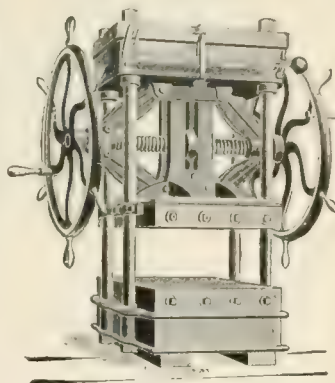
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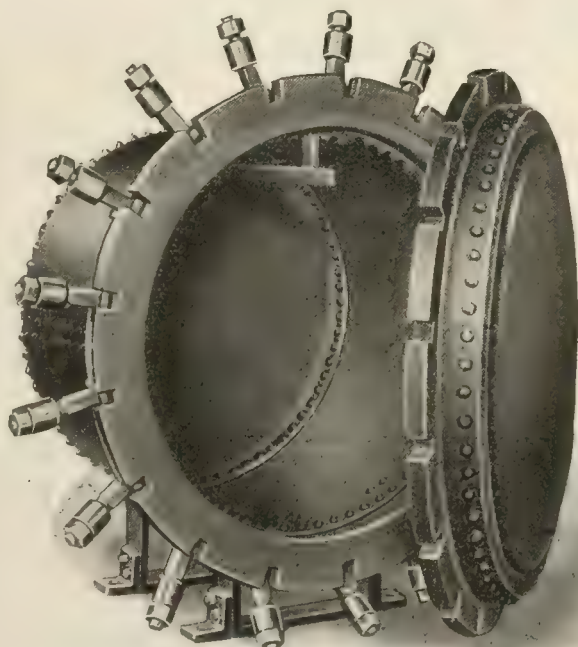
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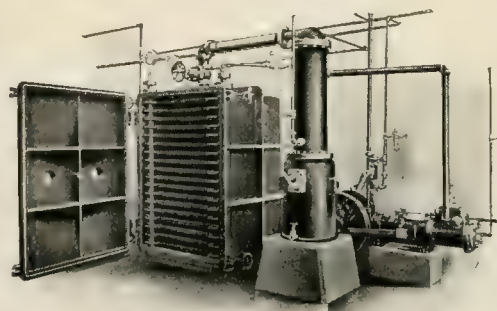
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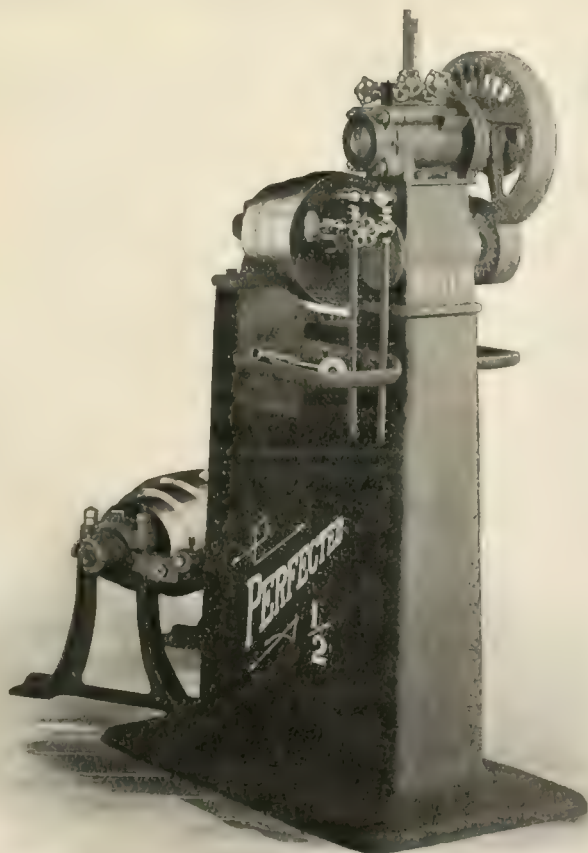
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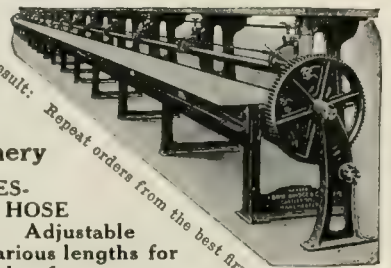
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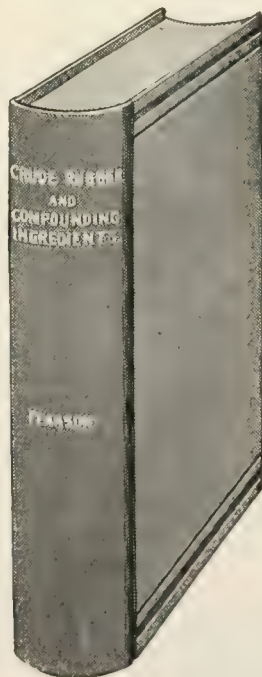
CRUDE RUBBER AND COMPOUNDING INGREDIENTS. A Text-Book of Rubber Manufacture. By Henry C. Pearson, Editor of THE INDIA RUBBER WORLD. Second Edition. New York: The India Rubber Publishing Company, 1909.

This is the second edition of a book which appeared ten years ago, and which may be regarded as a standard work on the subject in English. Since the appearance of the first edition the rubber industry has made rapid strides. New sources of rubber have been opened up and progress has been made in reclaiming waste rubber. In this revised edition the improvements in the art have all been conscientiously noted. The many new compounding ingredients, substitutes and processes find a place in its pages. As it stands the book is a dictionary of compounding facts, and an encyclopedia of rubber factory practice, intended primarily for factory use.

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From THE INDIA-RUBBER JOURNAL, London, June 28

Mr. Henry C. Pearson's text-book on rubber manufacture, entitled "Crude Rubber and Compounding Ingredients," has now gone into its second edition. A copy of this production is before us and we anticipate a very large demand, for the compilation has been made more attractive than ever and has been brought up to date in every chapter. The first edition appeared ten years ago, and since that time many changes have been chronicled, especially the making of motor tires, which Mr. Pearson describes as a new development, occupying to-day one of the great divisions in the manufacture of rubber goods. New compounding ingredients and substitutes have naturally increased in number in the interval between the two editions, and in the present issue only those of a real or suggestive value have been utilized. As the author claims, it still remains a dictionary of compounding facts; an encyclopedia of rubber factory practice. Attention is drawn to the fact that for some years past the price of crude rubber has been high, and has consequently led manufacturers to inquire into the value of materials, such as Pontianak. Gums of this character are described in the volume before us. - - - There is an additional chapter in the second edition, making a total number of fifteen, which refers entirely to reclaimed rubber and its uses. In this section a brief account is given to the various processes adopted at the present time. - - - We congratulate Mr. Pearson on his second edition and feel that, though it was promised to us in December of last year, it has been well worth waiting for.

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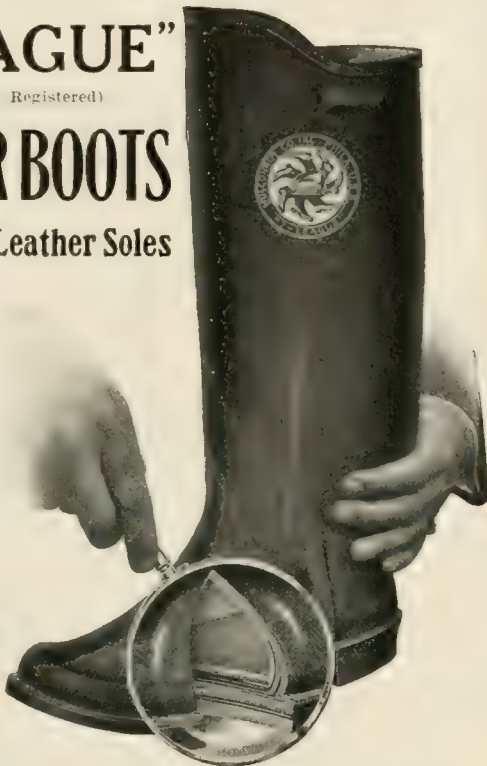
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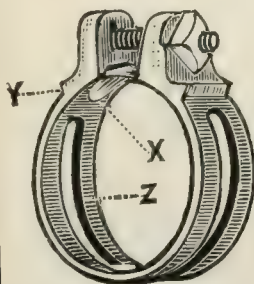
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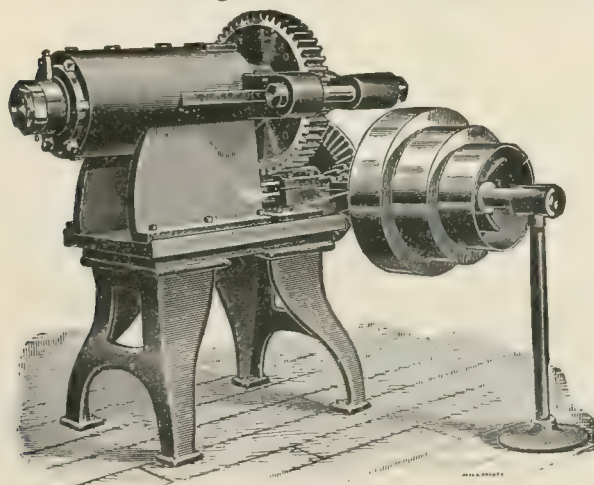
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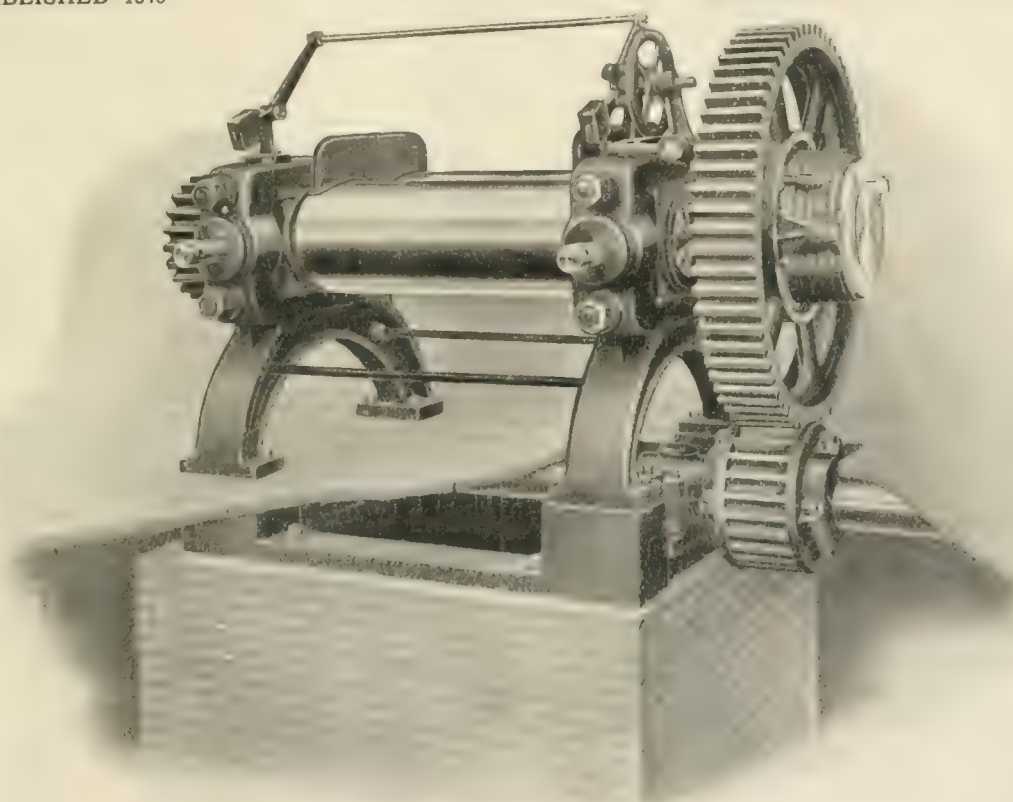
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Hose—Rubber Lined.

Cotton and Linon.
Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Gutta Percha & Rubber Mfg. Co., N. Y.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Mfg. Co., New York.
Fabric Fire Hose Co., New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto.

Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Submarine.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
A. Schrader's Son, Inc., New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Bands, Straps & Menders.

W. D. Allen Mfg. Co., Chicago.
Boston Woven Hose & Rubber Co.
F. R. Howell Brass Works, Phila., Pa.
A. Schrader's Son, Inc., N. Y.
William Yerdon, Fort Plain, N. Y.

Lawn-Hose Supporters.

W. D. Allen Mfg. Co., Chicago.
C. J. Bailey & Co., Boston.

Lawn Sprinklers.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.

Mallets (Rubber).

Boston Belting Co., Boston—New York.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston—New York.

Mould Work.

(See Mechanical Rubber Goods.)
B. & R. Rubber Co., No. Brookfield, Mass.
H. O. Canfield Co., Bridgeport, Ct.
Canton Rubber Co., Canton, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
Hodgman Rubber Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
Mattson Rubber Co., Lodi, N. J.
Morgan & Wright, Detroit, Mich.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Oil Well Supplies.

Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City.

Packing.

(See Mechanical Rubber Goods.)
Jenkins Bros., New York.
Mattson Rubber Co., Lodi, N. J.

Paper Machine Rollers.

Boston Belting Co., Boston—New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Plumbers' Supplies.

Canadian Rubber Co. of Montreal.
H. O. Canfield Co., Bridgeport, Ct.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
Republic Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.
Western Rubber Works, Goshen, Ind.

Pump Valves.

(See Mechanical Rubber Goods.)
Jenkins Bros., New York.
Mattson Rubber Co., Lodi, N. J.
Massachusetts Chemical Co., Walpole, Mass.

Rock Drill Couplings.

F. R. Howell Brass Works, Phila., Pa.

Rolls—Rubber Covered.

Acme Rubber Mfg. Co., Trenton, N. J.
Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Sewing Machine Rubbers.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
Mattson Rubber Co., Lodi, N. J.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.

RUBBER BUYERS' DIRECTORY—Continued.

Stair Treads—Continued.

National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Thread.

B. F. Goodrich Co., Akron, O.
Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston-New York.

Tiling.

American Hard Rubber Co., N. Y.
Canadian Rubber Co. of Montreal, Ltd.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.

Tubing.

(See Mechanical Rubber Goods.)
American Hard Rubber Co., New York.
B. & R. Rubber Co., No. Brookfield, Mass.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Mattson Rubber Co., Lodi, N. J.
Plymouth Rubber Co., Stoughton, Mass.
Rubber Products Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.
Voorhees Rub. Mfg. Co., Jersey City.

Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Valve Discs.

American Hard Rubber Co., New York.
Boston Belting Co., Boston-New York.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., N. Y.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Valves.

(See Mechanical Rubber Goods.)
Jenkins Bros. New York-Chicago.
Mattson Rubber Co., Lodi, N. J.

Vulcanite Emery Wheels.

Manhattan Rubber Mfg. Co., Passaic, N. J.
New York Belting & Packing Co., Ltd., New York.

Wringer Rolls.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES.

Atomizers. Nipples.
Bandages. Syringes.
Bulbs. Water Bottles.
Druggists' Sundries, Generally.

American Hard Rubber Co., New York.
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Huron Rubber Co., Cleveland, O.
Luzerne Rubber Co., Trenton, N. J.
Mass. Chemical Co., Walpole, Mass.
National India Rubber Co., Bristol, R. I.
Parker, Stearns & Co., N. Y.
Pirelli & Co., Milan, Italy.
Rubber Products Co., Barberton, O.
Seamless Rubber Co., New Haven, Ct.
Star Rubber Co., Akron, O.
Tyer Rubber Co., Andover, Mass.
Walpole Rubber Co., Granby, P. I.
Walpole Rubber Works, Walpole, Mass.
Western Specialty Mfg. Co., N. Y.

Balls, Dolls and Toys.

New York Rubber Co., New York.
Combination Fountain Syringe and Hot Water Bottle Fixtures.

A. Schrader's Son, Inc., N. Y.

Combs.

American Hard Rubber Co., New York.

Elastic Bands.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Tyer Rubber Co., Andover, Mass.

Erasable Rubbers.

Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.

Finger Cots.

Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence.
Faultless Rubber Mfg. Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Huron Rubber Co., Cleveland, O.
The Rubber Products Co., Barberton, O.

Gloves.

Canadian Rubber Co. of Montreal.
Canton Rubber Co., Canton, O.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
National India Rubber Co., Bristol, R. I.
Rubber Products Co., Barberton, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
H. O. Canfield Co., Bridgeport, Ct.
Daval Rubber Co., Providence, R. I.
Luzerne Rubber Co., Trenton, N. J.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyer Rubber Co., Andover, Mass.

Hospital Sheets.

Bishop Gutta Percha Co., N. Y.
Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Hot Water Bottle Stopples.

A. Schrader's Son, Inc., N. Y.

Ice Bags and Ice Caps.

Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
National India Rubber Co., Bristol, R. I.
The Rubber Products Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

Life Preservers.

Daval Rubber Co., Providence.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Shower Bath Sprinklers.

Daval Rubber Co., Providence.
A. Schrader's Son, Inc., New York.

Sponges (Rubber).

Faultless Rubber Co., Ashland, O.
N. Tire Rubber Sponge Co., Chicago.

Stationers' Sundries.

American Hard Rubber Co., New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Stopples (Metal).

A. Schrader's Son, Inc., N. Y.

Stopples (Rubber).

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
Erie Rubber Works, Erie, Pa.
Hodgman Rubber Co., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
Tyer Rubber Co., Andover, Mass.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
National India Rubber Co., Bristol, R. I.
Tyer Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
The Rubber Products Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

MACKINTOSHED AND SURFACE GOODS.

Air Goods (Rubber).

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
New York Rubber Co., New York.
National India Rubber Co., Providence.
Rubber Products Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

Air Mattresses.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I.
National India Rubber Co., Bristol, R. I.

Barbers' Bibs.

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
Tyer Rubber Co., Andover, Mass.

Bathing Caps.

Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Rubber Products Co., Barberton, O.

Bellows Cloths.

Boston Rubber Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.

Calendering.

Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.

Acme Rubber Mfg. Co., Trenton, N. J.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Gutta Percha & Rubber Mfg. Co., Toronto.
National India Rubber Co., Bristol, R. I.

Clothing.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Gutta Percha & Rubber Mfg. Co. of Toronto.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.
Pirelli & Co., Milan, Italy.

Cravenette.

Cravenette Co., Ltd.

Diving Apparatus.

A. Schrader's Son, Inc., New York.
Hodgman Rubber Co., New York.

Horse Covers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Leggings.

Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Mackintoshes.

(See Clothing.)

Proofing.

Canadian Rubber Co. of Montreal.
Plymouth Rubber Co., Stoughton, Mass.
Rain Coats.

Rain Coats.

Cravenette Co., Ltd.

Rubber Coated Cloths.

Mechanical Fabric Co., Providence, R. I.

RUBBER FOOTWEAR.

Boots and Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Canadian Rubber Co. of Montreal.
L. Candee & Co., New Haven, Conn.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co. of Toronto.
Hood Rubber Co., Boston.
Lycoming Rubber Co., Williamsport, Pa.
Meyer Rubber Co., New York.
National India Rubber Co., Boston.
United States Rubber Co., New York.
Wales-Goodyear Rubber Co., Boston.
Woonsocket Rubber Co., Providence.

Heels and Soles.

B. & R. Rubber Co., No. Brookfield, Mass.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Continental Caoutchouc & Gutta Percha Co., Hanover.
Foster Rubber Co., Boston.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Massachusetts Chemical Co., Walpole, Mass.
Plymouth Rubber Co., Stoughton, Mass.
Western Rubber Works, Goshen, Ind.

Tennis Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
National India Rubber Co., Providence.
United States Rubber Co., New York.

Wading Pants.

Canadian Rubber Co. of Montreal.
Hodgman Rubber Co., New York.

DENTAL AND STAMP RUBBER.

Dental Gum.

American Hard Rubber Co., New York.
Cleveland Rubber Co., Cleveland, O.
Tyer Rubber Co., Andover, Mass.

Rubber Dam.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Stamp Gum.

B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

ELECTRICAL.

Electrical Supplies.

American Hard Rubber Co., New York.
Joseph Stokes Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Mattson Rubber Co., Lodi, N. J.
Tyer Rubber Co., Andover, Mass.

Friction Tape.

Acme Rubber Mfg. Co., Trenton, N. J.
Boston Belting Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Luzerne Rubber Co., Trenton, N. J.
Joseph Stokes Rubber Co., Trenton, N. J.

RUBBER BUYERS' DIRECTORY—Continued.

Insulating Compounds.

Bishop Gutta Percha Co., N. Y.
Canadian Rubber Co. of Montreal.
Gutta Percha & Rubber Mfg. Co., Toronto.
Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.

Acme Rubber Mfg. Co., Trenton, N. J.
Bishop Gutta Percha Co., N. Y.
W. R. Brixey, New York.
The Indiana Rubber and Insulated Wire Co., Jonesboro, Ind.
National India Rubber Co., Providence.

Insulated Wire Waxes.

American Wax Co., Boston.

Splicing Compounds.

Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Walpole, Mass.

SPORTING GOODS.

Foot Balls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.

Faultless Rubber Co., Akron, O.
R. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
R. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, O.
R. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
R. F. Goodrich Co., Akron, O.
Rubber Products Co., Barberton, O.

Submarine Outfits.

Hodgman Rubber Co., New York.
A. Schrader's Sons, Inc., New York.

MISCELLANEOUS.

Boxes (Wood).

Henry H. Shelp & Co., Philadelphia.

Brass Fittings.

A. Schrader's Son, New York.

Cement (Rubber).

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

Chemists.

Chute, H. O., New York.
Maywald, F. J., New York.
Stephen P. Sharples, Boston, Mass.

Consulting Engineers.

Akron Rubber Engineering Co., Akron, O.
M. P. Fillingham, New York.

Rubber Journals.

Gummi Zeitung, Dresden, Germany.
L'Agriculture des Pays Chauds, France.

Rubber Tree Seeds.

J. P. William & Bros., Heneratgoda, Ceylon.

Tapping Tools.

G. Van den Kerckhove, Brussels, Belgium.

Valves for Air Goods.

A. Schrader's Son, Inc., New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER MACHINERY.

Acid Tanks.

Birmingham Iron Foundry, Derby, Conn.

Band Cutting Machines.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.

Belt Folding Machines.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Slitters.

Cloth Dryers.

Gearing.

Shafting.

Wrapping Machines.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Stretchers.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Hoggson & Pettis Mfg. Co., New Haven.

Boilers.

William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Braidiers.

New England Butt Co., Providence, R. I.

Calenders.

Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Textile-Finishing Machinery Co., Providence, R. I.

Castings.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Chucks (Lathe).

Hoggson & Pettis Mfg. Co., New Haven.

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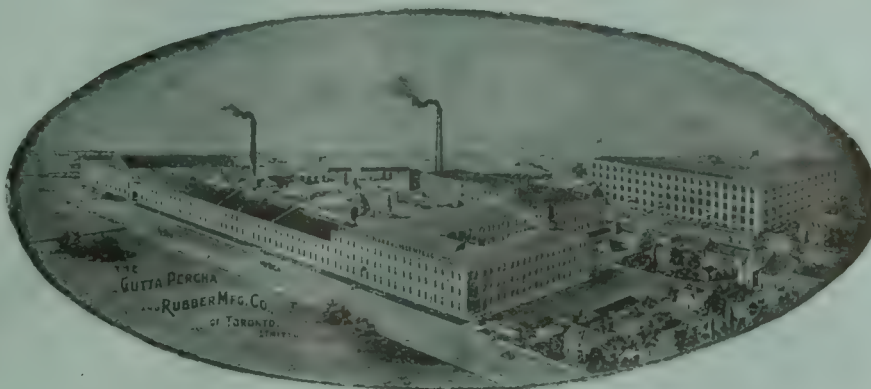
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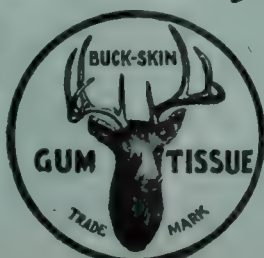
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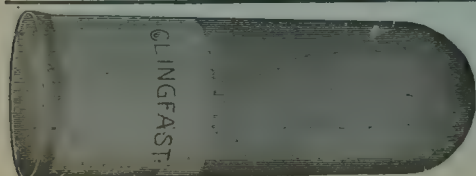
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